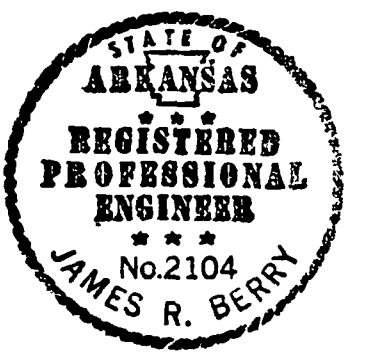
PREPARED FOR

PINE BLUFF ARSENAL
PINE BLUFF, ARKANSAS

BZ DEMILITARIZATION FACILITIES
RCRA PART A AND PART B
PERMIT APPLICATION

OCTOBER, 1983



GARVER & GARVER, INC
LITTLE ROCK, ARKANSAS

PINE BLUFF ARSENAL
PINE BLUFF, ARKANSAS

U. S. ARMY TOXIC AND
HAZARDOUS MATERIALS AGENCY
ABERDEEN PROVING GROUND, MARYLAND

U. S ARMY CORPS OF ENGINEERS
HUNTSVILLE DIVISION

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List of Drawings

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F A R 2 1 3 8 2 0 7 0 7 — D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill—in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill—in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge to waters of the U.S.**? (FORM 2B)		X	
C. Is this a facility which currently results in **discharges to waters of the U.S.** other than those described in A or B above? (FORM 2C)	X		
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge to waters of the U.S.**? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP: P I N E B L U F F A R S E N A L

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 F O R T N E R , W E N D E L L , E N V . C O O R D .	5 0 1 — 5 4 1 — 3 5 7 8

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 A T T N : S M C P B - E M

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 P I N E B L U F F	A R	7 1 6 1 1

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 P I N E B L U F F A R S E N A L

B. COUNTY NAME

J E F F E R S O N

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 P I N E B L U F F	A R	7 1 6 1 1	

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
2899 (specify) Pyrotechnic Ammunition, Signals	3483 (specify) Chemical Warfare Projectiles
C. THIRD	**D. FOURTH**
3489 (specify) Smoke Generators, Ordnance	(specify)

VIII. OPERATOR INFORMATION

A. NAME

PINE BLUFF ARSENAL

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL; S = STATE; P = PRIVATE; M = PUBLIC (other than federal or state); O = OTHER (specify)

F (specify)

D. PHONE (area code & no.)

501 541 3003

E. STREET OR P.O. BOX

ATTN SMCPB-CO

F. CITY OR TOWN | **G. STATE** | **H. ZIP CODE**

PINE BLUFF | AR | 71611

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): N AR0001678	**D. PSD** (Air Emissions from Proposed Sources): P NA
B. UIC (Underground Injection of Fluids): U NA	**E. OTHER** (specify): AR0034622 (specify) Domestic Discharge
C. RCRA (Hazardous Wastes): R NA	**E. OTHER** (specify): (specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

To operate pilot production, pre-production, and limited production facilities for the manufacture of smoke, riot control, incapacitating, incendiary, and pyrotechnic mixes and/or munitions as assigned; to produce or manufacture chemical, smoke, riot control, incapacitating incendiary and other pyrotechnic mixes and/or munitions; to operate limited production facilities in the manufacture of chemical defensive items and kits, to include impregnation of clothing and assembly of protective masks; to rework protective masks and clothing; to support research, development and engineering activities of other U.S. Army Material Development and Readiness Command (DARCOM) activities through operation of the facilities cited above, including manufacturing technology, origination and implementation of improvement and modernization projects; to receive, store, perform surveillance, renovate, demilitarize, and ship chemical, conventional, riot control, smoke, and incendiary agents and/or (see continuation sheet)

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
JOHN L. DASCANIO COL, CmlC Commander	John L Dascanio	11 Oct 1983

COMMENTS FOR OFFICIAL USE ONLY

C

CONTINUATION SHEET: EPA Form 3510-1 (EPA ID Number AR213820707)

XII Nature of Business

munitions, as required; to provide administrative and logistic support to installation mission activities and attached or tenant activities; to administer a procurement program in support of the installation's mission; to maintain a security program IAW AR 50-6; to operate a mobile chemical laboratory at various DARCOM installations; to perform installation restoration and chemical demilitarization activities in support of U. S. Army Toxic and Hazardous Materials Agency (USATHAMA); to operate pollution abatement/demilitarization facilities; to operate the transportable laboratory for the drill and transfer operation (lethal agents) for USATHAMA.

Note: Question IIC is answered "yes" because the overall Pine Bluff Arsenal facility does result in discharges to waters of the U. S.

Form 2C is not attached because the units for which this permit application is submitted do not result in discharges to waters of the U. S.

XI Map

The required topographic map is shown on Sheet G-4 of the Permit Application Plans.

Please print or type in the unshaded areas only
(fill—in areas are spaced for elite type, i.e., 12 characters/inch)

Form Approved OMB No. 158-S80004

FORM 3 RCRA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

S												T/A	
F	A	R	2	1	3	8	2	0	7	0	7		1

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

☒ 2. NEW FACILITY *(Complete item below.)*

C 8

FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

YR.	MO.	DAY

FOR NEW FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO	DAY
8 6	1 0	0 1

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☐ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES — CODES AND DESIGN CAPACITIES

A. PROCESS CODE — Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY — For each code entered in column A enter the capacity of the process.

1. AMOUNT — Enter the amount.
2. UNIT OF MEASURE — For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	Q

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

S		T/A	C
C	DUP		1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	T01	2.0	D		7				
2	T03	1.6	D		8				
3	S01	(see III.c.; Line 3)			9				
4					10				

Continued from the front.

III. PROCESSES *(continued)*

C SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")* FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

Notes for Section IIIB:

Line 1: Four identical treatment tanks with the capacity based on one M44 per hour per tank. The total weight of the M44 is used to calculate the capacity. Since the waste is a solid, the liquid measure suggested in IIIB is inappropriate and a weight rate is used.

Line 2: The capacity shown is the maximum anticipated production rate for the two metal parts furnaces being permitted and the rotary deactivation furnace.

Line 3: Maximum capacity of the storage igloo (the MHA) is limited to ten times the capacity of the containment system (sump). This equates to 3300 gallons when liquids are in storage. Maximum storage capacity when dry (non-liquid) wastes are stored is 16.34 cubic yards (based on 60- 55 gallon drums arranged to comply with aisle space requirements).

IV. DESCRIPTION OF HAZARDOUS WASTES

A. **EPA HAZARDOUS WASTE NUMBER** – Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. **ESTIMATED ANNUAL QUANTITY** – For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non–listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. **UNIT OF MEASURE** – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non–listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

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EPA I.D. NUMBER (enter from page 1)													T/A	C	FOR OFFICIAL USE ONLY													T/A	C	
W	A	R	2	1	3	8	2	0	7	0	7			1	W	D	U	P										2	DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D001	300,000	P	T03	S01			CMC
2	D002	20,000	P	T03				Decontamination solution
3	D003	560,000	P	T03	T01	S01		Munitions
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								

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V. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

Note for Part IV:

Line 3: The weight of hazardous materials in the munitions is 166,000 lb/yr.

EPA I.D. NO. *(enter from page 1)*: A R 2 1 3 8 2 0 7 0 7 — T/A C 6

VI. FACILITY DRAWING

All **existing** facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VII. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground–level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

VIII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
34 21 00 North	92 05 14 West

IX. FACILITY OWNER

☐ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
	C G		

X. OWNER CERTIFICATION

certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
JOHN L. DASCANIO COL, CmlC Commander	John L Dascanio	11 Oct 1983

XI. OPERATOR CERTIFICATION

certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED

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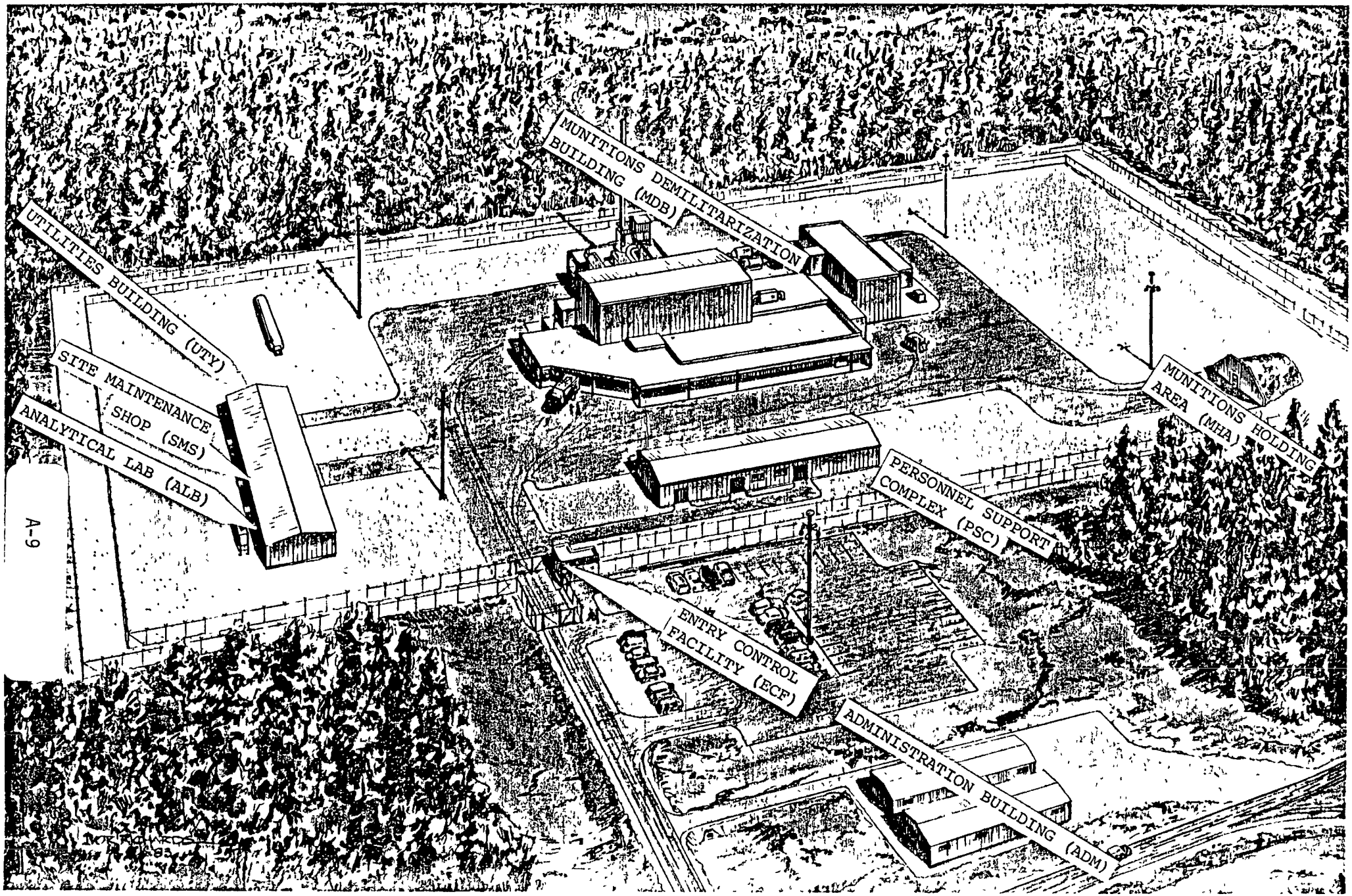
V. FACILITY DRAWING *(see page 4)*

A Facility Introduction and a copy of a rendering of the facility follows this sheet of the Part A application. More detailed drawings are containted in the Part B application and this list of drawings attached with this Part A and Part B application. See Page A-9 for drawing.


MUNITIONS DEMILITARIZATION BUILDING (MDB)
UTILITIES BUILDING (UTY)
SITE MAINTENANCE SHOP (SMS)
ANALYTICAL LAB (ALB)
MUNITIONS HOLDING AREA (MHA)
PERSONNEL SUPPORT COMPLEX (PSC)
ENTRY CONTROL FACILITY (ECF)
ADMINISTRATION BUILDING (ADM)

FACILITY INTRODUCTION

The BZ (3-quinuclidinyl benzilate, an incapacitating agent) Demilitarization Facility is proposed to be constructed on the Pine Bluff Arsenal, Arkansas. The general location of this facility is shown on Sheet G-1 of the Drawings. A copy of a rendering of this facility is shown on the previous page of this Permit Application.

The facility consists of access road, Administration Building (ADM), parking area, Personnel Support Complex (PSC), Munitions Holding Area (MHA), Munitions Demilitarization Building (MDB), and a multi-purpose building that will be used for the Analytical Lab (ALB) Site Maintenance Shop (SMS) and Utilities Building (UTY). With the exception of the Administration Building and the parking area, all of these facilities are enclosed by a security fence with an Entry Control Facility (ECF) located at the entrance road. These facilities are described in more detail in the Part B application.

RCRA permits for the Munitions Holding Area and certain specific facilities within the Munitions Demilitarization Building are requested. The requirements for the permit are contained in this Part A and Part B RCRA Permit Application. Each of the specific facilities within the Munitions Demilitarization Building are described in the Part B application.

TABLE A-1

Acronym List

ADM	Administration Building
ALB	Analytical Laboratory
ALC	Airlock
APC (Also called PCS)	Air Pollution Control System
CAICP	Chemical Accident and Incident Control Plan
CDS	Chemical Distribution System
CMC	Caustic Methyl-Cellosolve
COA	Cooling Area
CR (Also called SCC)	Control Room
DFS	Deactivation Furnace System
DPA	Drum Preparation Area
ECF	Entry Control Facility
EQR	Equipment Room
FPS	Fire Protection System
FWS	Fire Water Supply System
HDC	Heated Discharge Conveyor
HEPA	High Efficiency Particulate Air Filter
HVAC	Heating, Ventilating & Air Conditioning Systems
IDS	Intrusion Detection System
LIN	Liquid Incinerator
MDA	Munition Disassembly Area
MDB	Munitions Demilitarization Building

MHA	Munition Holding Area (Igloo)
MIN	Munition Inerting Area
MPB	Multi-Purpose Building
MPF	Metal Parts Furnace
MUA	Munition Unpack Area
PBA	Pine Bluff Arsenal
PCS	See APC
PFB	Primary Fume Burner
PSC	Personnel Support Complex
SCC	See CR
SMS	Site Maintenance Shop
SOP	Standing Operating Procedure
TCA	Toxic Change Area
THAMA	(U. S. Army) Toxic and Hazardous Materials Agency
UTY	Utility Systems

SECTION B

B. FACILITY DESCRIPTION

B-1. General Description [270.14 (b)(1)].

The proposed BZ demilitarization facility is to be used for the destruction of the Army's existing stockpile of chemical warfare agent BZ (3-quinuclidinyl benzilate, an incapacitating agent), BZ-filled munitions, and BZ-contaminated residues. Although this is the Army's first disposal facility for a nonlethal chemical agent (BZ), it is quite similar in design to Army Facilities used for the disposal of lethal chemical materials. Equipment and procedures which have been successfully utilized in other demilitarization plants are being utilized to the maximum extent possible in the BZ Facility. Stringent procedures/equipment for safety, security, and environmental control are used to preclude accidental release of any hazardous materials, including incorporation of "total containment systems" in the Demilitarization Building itself.

The proposed demilitarization facility will be built at Pine Bluff Arsenal, Arkansas, in Jefferson County, approximately 30 miles southeast of Little Rock. The Arkansas River forms the eastern boundary of the Arsenal, and the west boundary is adjacent to the right-of-way of the Missouri Pacific Railroad. Privately owned farm and timberlands adjoin the reservation on the north, while the south boundary is adjacent to the Weyerhaeuser paper mill and undeveloped industrial property.

The Arsenal consists of approximately 14,500 acres of Government owned land. About one third of the acreage is used for the production, manufacture, and storage of military materials.

The installation is served by the St. Louis Southwestern and the Missouri Pacific Railroads. It is accessible from U.S. Highway 65 at three points along the west boundary and is accessible to Highway 79 from Warbritton Gate located on the south boundary.

The entire BZ inventory, consisting of BZ munitions (M43s and M44s) and items (drums of BZ and BZ-contaminated residues), is stored in earth-covered igloos within a Chemical Exclusion Area at Pine Bluff Arsenal. From here the munitions and items will be transported to the facility on a regular basis, in accordance with Army Standing Operating Procedures, and the requirements of DARCOM 385-100 and AR 50-6, for processing and disposal. Based on prior process development work, incineration will be the agent destruction method.

The proposed facility will be located in a remote part of Pine Bluff Arsenal in a fenced rectangular plot of approximately 600 ft. x 670 ft. It will consist of a centrally located main process area called the Munitions Demilitarization Building, and several support buildings.

Access to the demilitarization area will be controlled through an Entry Control Facility.

Materials coming into the facility will be unloaded at a Munitions Holding Area (S01), which will be an earth-covered, temporary storage igloo located inside the facility fence. This igloo will be located approximately 200 feet from the demilitarization building. It will be used for receiving, unloading, inspection and preparation of the waste materials for movement to the unpacking area of the Munitions Demilitarization Building.

Other support buildings include a Multipurpose Building and a Personnel Support Complex.

The Multipurpose Building will house an analytical laboratory, site maintenance shop and utilities room. The analytical laboratory will provide on-site support for servicing alarms; collection, preparation, and analysis of samples; and other analyses as required. The site maintenance shop will be used for equipment repair and maintenance. The utilities room will contain a hot water heater, an air compressor, and space for tool and equipment storage.

The Personnel Support Complex will contain a non-contaminated clothes change area, lunch room, medical aid area, toilet and showers, and an administration area.

In addition to these buildings, the other site installations will include a 60-70 vehicle parking lot and engineering offices for administration and documentation purposes located outside the fenced area. Within the BZ facility fence will be a system of fire hydrants connected to a fire loop.

The Munitions Demilitarization Building will be divided into specialized activity areas where various steps in the demilitarization process will be performed. These major areas and their functions are listed below:

Area	Function
Munition Unpack Area	Removal of protective packaging from munitions
Munition Inerting Area (T01)	Inerting of M43 and M44 munitions by soaking in water

Munition Disassembly Area	Disassembly of M43's to M138 bombs and and M44's to M6 canisters
Drum Preparation Area	Removal of lids from waste drums and pails; punching of holes in drums to facilitate incineration
Metal Parts Furnace Area (T03)	Decontamination of metal parts; destruction of liquid and solid residues
Deactivation Furnace System (T03) with Heated Discharge Conveyor	Incineration of BZ-pyromix munitions; (heated conveyor assures final decontamination); decontamination of metal casings
Liquid Incinerator	Destruction of BZ-contaminated liquids
Afterburner	Destruction of residual BZ in flue gases from furnaces prior to discharge to air pollution control system
Air Pollution Control	Capture of particulate contaminants in furnace flue gases prior to discharge to stack

Major support functions will also be housed in the Munition Demilitarization Building. These include the chemical distribution system where plant washdown solutions will be received, blended, and distributed; the laundry pickup room, where protective clothing worn by workers in toxic plant areas will be decontaminated; the control room which contains a central system for control of all building operations; a dedicated water supply for inerting and disassembly fire protection systems; and various equipment and personnel safety support rooms.

The Munitions Demilitarization Building will be equipped with several types of furnaces (a rotary deactivation furnace system, two metal parts furnaces with primary fume burners, two metal parts furnaces without primary fume burners, and a liquid incinerator) discharging to a common afterburner. All materials considered contaminated will be incinerated. The munition disposal process will consist of unpacking the munitions from their storage and transport packing material (dunnage), inerting (water soaking) the munitions to render them safer to handle, disassembling the M43 munitions to the M138 bombs, the M44s to their M6 canisters, and destroying the agent containing M138 and M6 submunitions in a rotary deactivation furnace system. Unpacking of wastes and disassembly of munitions are not treatments and, therefore, do not require permitting. The inerting operation is considered a treatment of the waste and is being permitted.

The plant will be equipped with a multiple furnace system consisting of six furnaces, all of which exhaust to a common afterburner, flue gas cleaning system and stack. The furnaces include four fixed hearth type metal parts furnaces. Two furnaces (No. 1 and 2) are equipped with primary fume burners in their exhaust ducts which are used only when they are processing containerized liquid organic wastes in a pyrolytic mode. The nonhazardous containerized wastes will be processed in all four furnaces. One rotary deactivation furnace will be used to incinerate the munition components containing BZ-pyromix, fuses, and detonating cord. The liquid incinerator will be used to destroy aqueous liquid wastes generated by the facility. Only metal parts furnaces No. 1 and 2 and the rotary deactivation furnace system handle hazardous wastes are to be permitted.

An operating protocol has been developed whereby the hazardous wastes as defined by RCRA will be processed in metal parts furnaces No. 1 and 2,

which have primary fume burners, and in the rotary deactivation furnace system. The other two metal parts furnaces, No. 3 and 4, which will not be equipped with primary fume burners, will not process hazardous wastes. The liquid incinerator will process only nonhazardous wastes generated by the demilitarization process and aqueous wastes from the analytical laboratory. Since no regulated wastes are to be processed in the liquid incinerator and metal parts furnaces No. 3 and 4 or the afterburner, permits are not being requested for these units.

The distribution of wastes among the various furnaces at the facility is shown in Table B-1.

Ventilation systems for the plant have been designed to contain agent in toxic areas, to allow air flow from regions of low contamination to regions of higher contamination, and to filter exhaust air through redundant High Efficiency Particulate (HEPA) filters. All critical operations, processes, and variables will be controlled and/or monitored from the control room, which will be ventilated with air under positive pressure drawn through HEPA filters at the inlet. The plant has been designed for maximum agent containment and destruction, and maximum protection of workers and the public from agent exposure.

There will be no process wastewater discharge from the proposed facility. Domestic sewage wastes would be treated at the North Area domestic sewage treatment plant. Contamination of surface waters resulting from an accidental munition functioning during handling or transport would be controlled by implementation of existing spill containment procedures.

Solid waste materials will be disposed of in Pine Bluff Arsenal waste landfills. In the event that a waste is classified as hazardous, it will be stored in a permitted facility until a Pine Bluff Arsenal hazardous waste

TABLE B-1. DISTRIBUTION OF WASTES AMONG FURNACES

Waste Description	Furnaces			
	DFS	MPF 1&2	MPF 3&4	LIN
Non-hazardous Wastes				
Hydraulic oil from inventory		X		
Solid residues from inventory:				
Ion exchange resin		X	X	
Metal parts		X	X	
Sand		X	X	
Insulation		X	X	
Wood		X	X	
Clothing, tools, etc.		X	X	
BZ agent				X
Liquid residues from process:				
Floor washings from inerting area				X
Toxic area washdown solution				X
Clothing decontamination solution		X	X	
Shower water				X
Solid residues from process:				
HEPA filters		X	X	
Metal parts from munitions		X	X	
Wood from packing crates		X	X	
Parachutes from M16 generators		X	X	
Used activated carbon cartridges		X	X	
Aqueous laboratory wastes				X
Hazardous Wastes				
Munitions and parts:				
M138s from M43 bomb clusters	X			
M6 canisters from M16 generators	X			
M220 fuses from M16 generators	X			
Detonating cord from M43 clusters	X			
High strength caustic decontamination solution		X		
CMC solution from inventory		X		

DFS = Deactivation furnace system
MPF = Metal parts furnace
LIN = Liquid incinerator

hazardous waste landfill or other permitted disposal facility is available. Disposal in this facility should result in no impact to surface or subsurface soils or water quality. If the solid wastes are classified as nonhazardous, they would be disposed of in a Pine Bluff Arsenal solid waste facility designed for minimal impact to the environment.

There will be two types of wastes generated by the demilitarization process which could be classified as hazardous under RCRA. These are: (1) spent solution from decontamination, and (2) bag house dust. The spent solution of caustic detergent, which may have a sufficient pH to classify it as corrosive, will be generated during decontamination of items contaminated with BZ. The baghouse dust generated from operation of the pollution control system has not yet been classified but may meet the EP toxicity characteristic of a hazardous waste. Baghouse dust will be produced as a result of removal of particulates from flue gas which has been treated in the afterburner.

The facility will process materials 5 days per week with one primary 8 hour operating shift each day. Although no unpacking, inerting, or disassembly of munitions is foreseen during the second or third shifts, some incineration of liquids, decontamination of material handling elements and miscellaneous munition parts, and disposal of BZ-contaminated items in the metal parts furnace will be conducted in the second shift. During the third shift, no operations involving BZ will be conducted and the furnaces will be idle.

The target daily processing rates for the facility are:

- 12 M43 bomb cluster, or
- 20 M44 generator cluster, or

° 16 pails of BZ, or

° 16 drums of solid and liquid residues.

The entire demilitarization effort is anticipated to take approximately 18 months. An additional six months have been allocated for closure of the facility.

The contact and party responsible for the hazardous waste management activities at the Pine Bluff Arsenal will be:

Mr. Wendell Fortner
Environmental Coordinator
Pine Bluff Arsenal
Attention: SMCPB-EM
Pine Bluff, Arkansas 71611
(501) 541-3578

B-2. Topographic Map [270.14 (b)(19)].

The various requirements this sub-section are shown on Sheets C-1 thru C-4 and G-1 thru G-3 of the Permit Application Plans.

B-3. Location Information [270.14 (b)(11)].

B-3a. Seismic Considerations [270.14 (b)(11)(i); 270.14 (b)(11)(ii); 264.18 (a)].

The proposed BZ Demilitarization Facility is located on the premises of Pine Bluff Arsenal, Jefferson County, Arkansas. The seismic considerations of 40CFR 264.18(a) therefore do not apply to this Permit Application because Appendix VI of 40CFR 264 does not list Jefferson County, Arkansas, as a seismic sensitive location.

The regulations of 40CFR 270.14(b)(11)(ii) do not apply to this Permit Application because 40CFR 270.14(b)(11)(i) does not apply.

B-3b. Floodplain Standard [270.14 (b)(11)(iii); 264.18(b)].

The proposed BZ Demilitarization Facility is not located in the 100-year floodplain. The 100-year floodplain boundary is shown on Sheet G-1 of the Permit Application Plans. The facility site is approximately 25 to 30 feet above the 100-year flood elevation of 222.0 (MSL). The floodplain information was provided by the Little Rock District, U. S. Army Corps of Engineers.

The requirements of 40CFR 264.18(b) and the following listed sections of this Permit Application do not apply because the BZ Demilitarization Facility is not in the 100-year floodplain.

B-3b(1). Demonstration of Compliance	N/A
B-3b(1)a. Flood Proofing and Flood Protection	N/A
B-3b(1)b. Flood Plan	N/A
B-3b(2). Plan for Compliance	N/A

B-4. Traffic Information [270.14 (b)(10)].

Movement of the waste inventory items shown on Table C-1 of this Permit Application between their present location and the BZ Demilitarization Facility will be over existing Pine Bluff Arsenal roads. The delivery route is shown on Sheet G-1 of the Permit Application Plans. The delivery vehicle will be a flat bed truck and is expected to have a gross vehicle weight of about 8,000 pounds maximum. Three round trips per day are expected between the present storage location and the Munitions Holding Area at the BZ Demilitarization Facility.

The delivery route will traverse both paved and unpaved roads. Avenue 6242 which connects the present waste inventory storage area to 504 Street is a gravel surface road. Avenue 6242 is well drained and maintained and is capable of H-20 highway loading for infrequent traffic. Although the load bearing capacity would be somewhat reduced during wet weather, the daily delivery of waste items would not be affected.

504 Street and Atkisson Road are asphalt surfaced with a crushed stone base course. Both are well drained and maintained and are capable of H-20 highway load bearing capacity.

Rideout Road and Webster Road are both gravel surfaced, but current plans call for both roads to be paved by the time BZ Demilitarization Facility operations begin.

Other traffic using the delivery route consists of vehicles ranging from motorcycles to heavy equipment haulers. The average daily traffic (ADT) count for Atkisson Road at Rideout Road in June, 1982, was 228 vehicles per day (VPD). It is anticipated that about 50 percent of these vehicles (approximately 114 VPD) turn onto Rideout Road, and that about 40 percent (approximately 46 VPD) turn off Rideout Road onto Webster Road. It is further believed, however, that the 46 VPD using Webster Road consist mainly of cars and trucks up to 2½ tons.

In addition to the existing traffic count along the delivery route, there will be about 80 to 100 round trips per day by BZ Demilitarization Facility personnel in cars and pickup trucks.

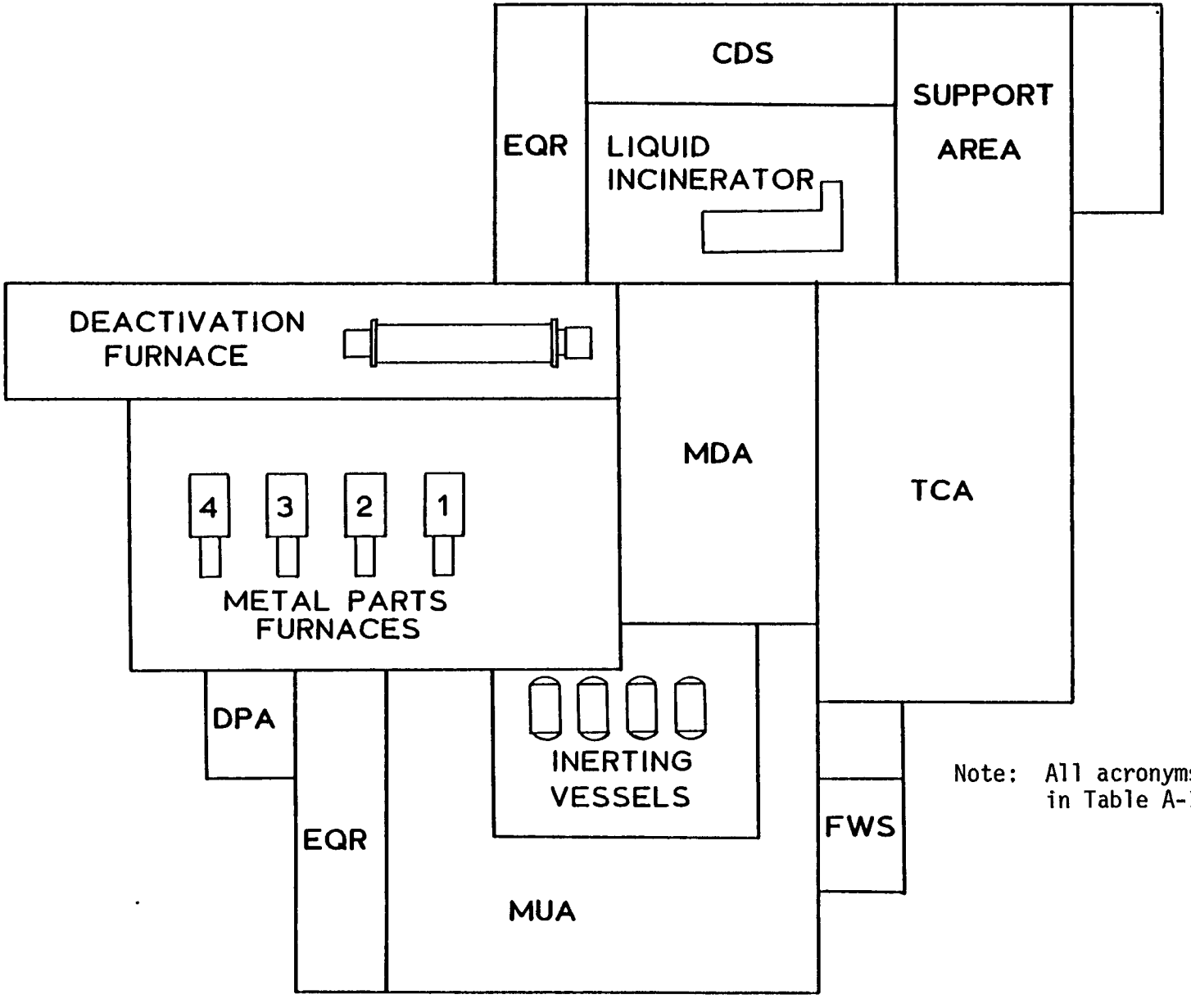
Existing traffic controls along the delivery route consist only of stop signs, yield signs, and speed limit signs. There is only one turn across a traffic lane (left off 504 Street onto Atkisson Road) for loaded delivery vehicles. The relatively low ADT count at this intersection does not

dictate use of stacking lanes. All other traffic will be temporarily stopped by armed guards.

Traffic patterns on the BZ Demilitarization Facility site consist of short range movement of light vehicles and the delivery vehicle to the Munitions Holding Area. All on-site traffic must enter and exit through the entry control facility (ECF). There are no through streets on-site.

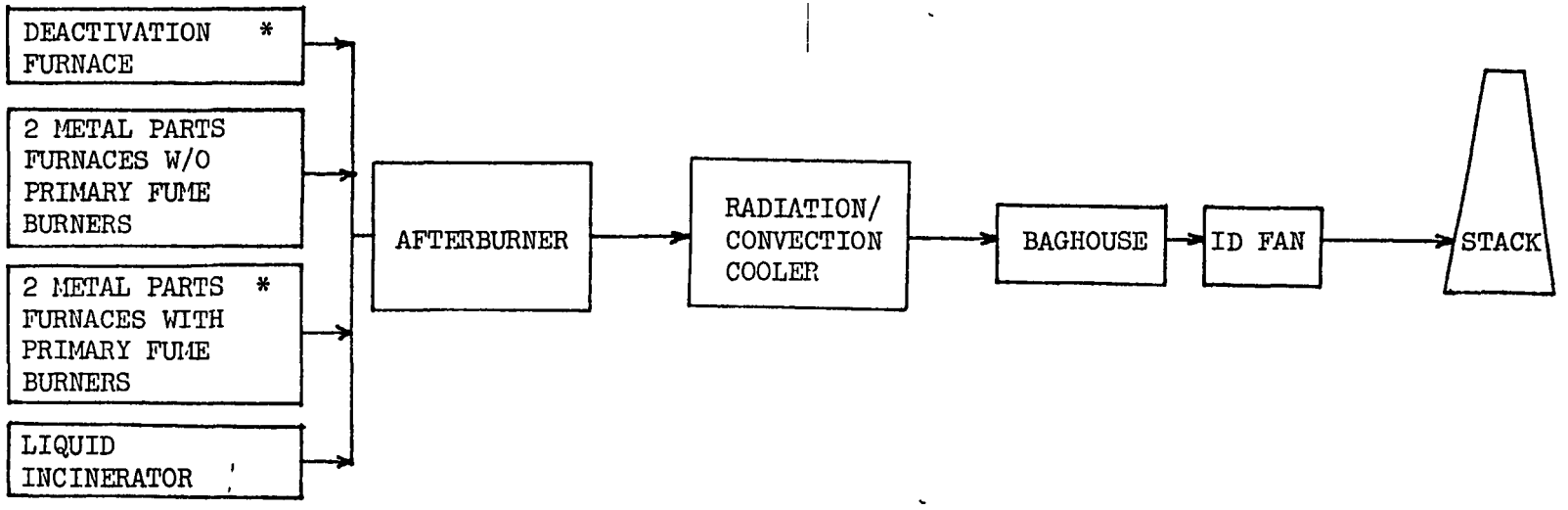
APPENDIX A to SECTION B

FACILITY AND EQUIPMENT LAYOUT



Note: All acronyms are explained in Table A-1.

Figure B-1



* Denotes furnaces which will process RCRA hazardous wastes.

Figure B-2

APPENDIX B TO SECTION B

INCINERATION AND AIR POLLUTION CONTROL PROCESS FLOW DIAGRAM

SECTION C

C. WASTE CHARACTERISTICS

C-1. Chemical and Physical Analyses [270.14 (b)(2)].

In the early 1960s the Army identified a non-lethal, incapacitating drug, 3-quinuclidinyl benzilate, that had potential for use in military application. Individuals who inhaled or ingested this drug, called BZ for short, become temporarily disoriented and incapable of following even simple commands. The Army developed a delivery system which transformed the BZ into an aerosol cloud. This system was incorporated in two types of munitions, the M43 Bomb Cluster and the M44 Generator Cluster, both designed for aerial delivery. In both munitions, the BZ is mixed with a pyrotechnic material. When this mixture is ignited, the BZ is vaporized, discharged from the munition, and condensed into an aerosol as it cools. The existing stockpile of the two types of munitions was made at Pine Bluff Arsenal, Pine Bluff, Arkansas. The weapons have been stored there since their manufacture. In addition to the two BZ-filled munitions, a quantity of BZ and of contaminated liquid and solid residues produced during the closure of the production facility and in pilot testing of the demilitarization process are also in inventory at the Arsenal. These munitions have become obsolete and are expensive and potentially hazardous to maintain in their present condition. The Government has, therefore, mandated that the munitions, the BZ and the BZ-contaminated materials be destroyed. A list of the BZ materials in inventory in 1982 is given in Table C-1.

The BZ itself is not a hazardous waste as defined by RCRA, because it is not listed in 261 Subpart D and does not exhibit any of the

TABLE C-1

Waste Inventory

Munitions	Quantity/Storage Configuration	
M43 Bomb Cluster	519	2 each per crate
M44 Generator Cluster	973	1 each per crate
M6 Canisters	4,336	in 47- 55 gal. drums (c)
M7 Canisters	2,292	in 32- 55 gal. drums (c)

Solid Residues	55 gal. drums(c)	85 gal. overpacks(d)	Total
Ion-exchange resin	0	27	27
Sand	25	0	25
Filters	18	3	21
Insulation	31	0	31
Metal Parts (a)	111	0	111
Metal Parts (b)	54	0	54
Wood	612	0	612
Miscellaneous tools, clothing, pipe, etc.	109	20	129
Burned Submunitions	5	0	5
	965	50	1,015

Liquid Residues	55 gal. drums(c)	85 gal. overpacks(d)	Total
CMC-H_2O mix (f)	571	456	1,027
Hydraulic oil	0	3	3
	571	459	1,030

BZ(e): 242 ea., 16 gal. pails inside 30 gal. overpack drums

Miscellaneous Metal Parts in Metal Bins: 4 each at 93" x 33" x 37"

(a) Metal parts from refrigeration equipment

(b) Metal parts from disassembled munitions

(c) 55 gallon drums are stored 4 per pallet

(d) 85 gallon overpack drums are stored 2 per pallet

(e) 30 gallon overpack drums of BZ are stored 4 per pallet

(f) Additional CMC could be generated

characteristics listed in 261 Subpart C. In the munition, the BZ is present in a 1:1 mixture of BZ and pyrotechnic compounds. The BZ-pyromix is formed into a hollow cylinder enclosed in steel cans containing either 0.625 or 0.75 lb (284 or 341 g) of BZ-pyromix. The inside surface of the hollow cylinder in each canister is coated with about two grams of a starter mix which ignites the pyromix when the weapon functions. When ignited, the pyromix burns vigorously generating clouds of smoke containing aerosolized BZ.

M43 Bomb Cluster

The M43 bomb cluster consists of 57 M138 bomblets contained in a cluster adapter. Figure C-1 shows a cutaway view of an M43 bomb cluster. The cluster itself weighs approximately 750 lb (340 kg), and contains 171 lb (77.7 kg) of BZ-pyromix. It is 66 in (1.7 m) long and 16 in (0.4 m) in diameter and contains 3 stacks of 19 M138 bomblets separated by fiberboard spacers. The two piece cover is held together with a hinge tube containing a length of detonating cord which is designed to explode after the cluster is dropped from an airplane, separating the halves and allowing the bomblets to disperse. It contains about 180 lb (81.8 kg) of packing material and 570 lb (259 kg) of bomblets. The cluster is clearly labeled and is marked by a munition lot number which is unique to this type of munition. The Army has determined that this munition is a Class B explosive; by definition it will be a reactive waste under 261.23(a)(8).

The M138 bomblet (shown in Figure C-2) is a thin walled cylinder equipped on one end with an M150A2 impact fuze with a delay element. Each M138 contains four M7 canisters of BZ-pyromix (shown in Figure C-3), each of which contains 0.75 lb (341 g) of BZ-pyromix. The composition of the

BZ-pyromix and starter mix is shown in Table C-2. When the fuze is armed, impact of the bomblet will activate the fuze, which, after an 8 to 12 second delay, will ignite the starter mix and the BZ-pyromix. As can be seen in Figure C-1, the bomblets are clearly labeled.

The fuze contained in each M138 bomblet contains four charges as shown in Table C-3. The fuze will remain attached to the M138 when it is incinerated, but it will have been rendered safe by the previous water treatment and by the application of a safing clip as the cluster is disassembled.

Each M43 bomb cluster is covered by a wooden shipping guard and packed two to a wooden box. The box is marked by an inventory control number uniquely identifying the particular box and keyed to the munitions it contains. When the munition is processed for demilitarization, the packing materials will first be removed for destruction by burning in a metal parts furnace. These materials, when separated from the munition, are not considered to be hazardous wastes as defined by RCRA.

M44 Generator Cluster

The M44 generator cluster, as shown in Figure C-4, consists of three M16 generators held together by metal bars. The M44 generator cluster is 59 in (1.5 m) long and 12 in (0.3 m) in diameter, weighs 175 lb (80 kg) and contains 78.75 lb (35.8 kg) of BZ-pyromix. It contains three M16 generators (shown in Figure C-5), each of which contains its own parachute, an M220 time delay fuze, a palladium-ruthenium alloy ignitor pad and 42 M6 canisters (shown in Figure C-6), each containing 0.625 lb (284 g) of BZ-pyromix and two grams of starter mix. Each of the M16 generators is distinctively marked so it cannot be mistaken for any other munition. The Army has

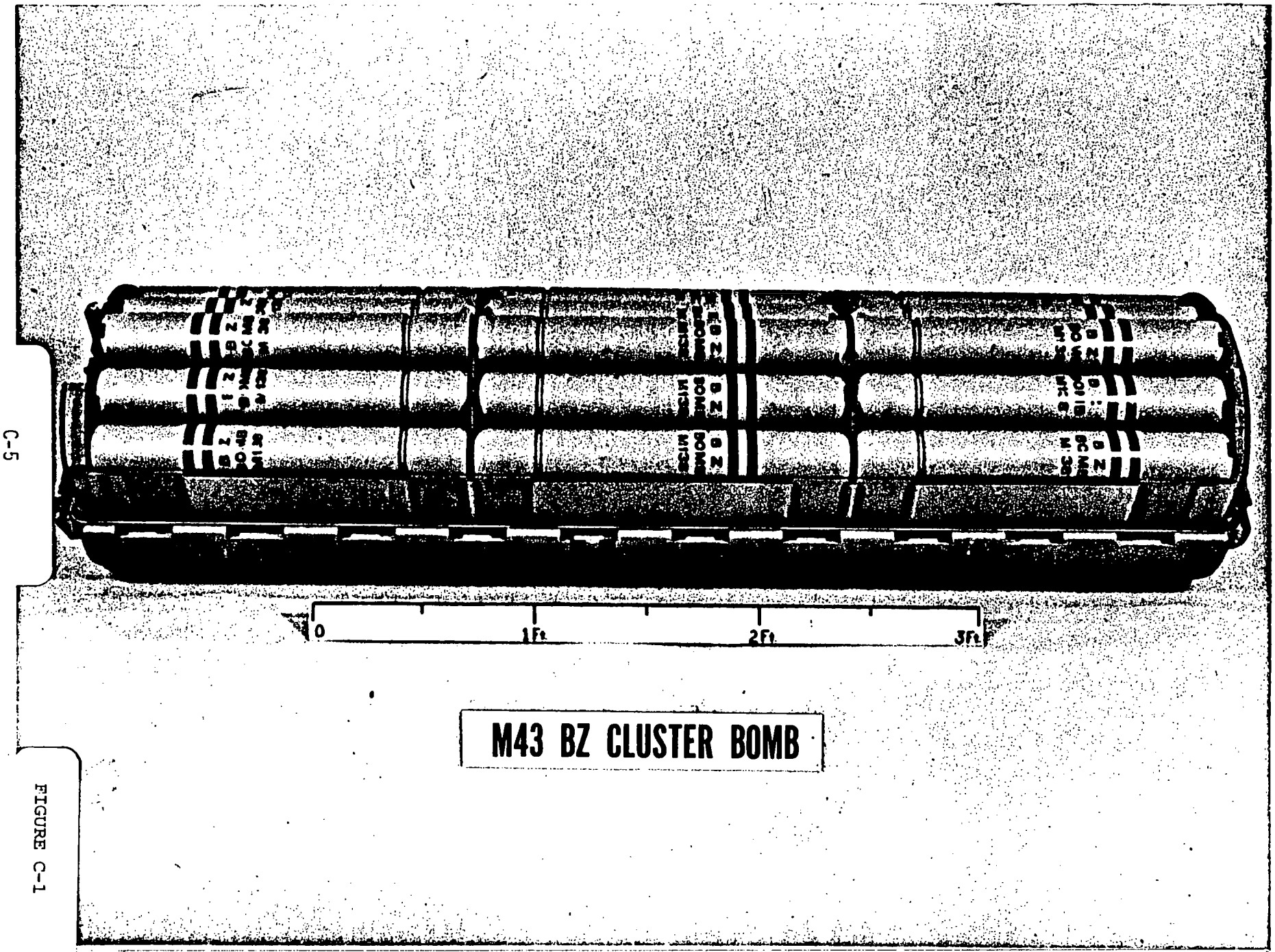


FIGURE C-1

M-43 Bomb Cluster Showing Interior

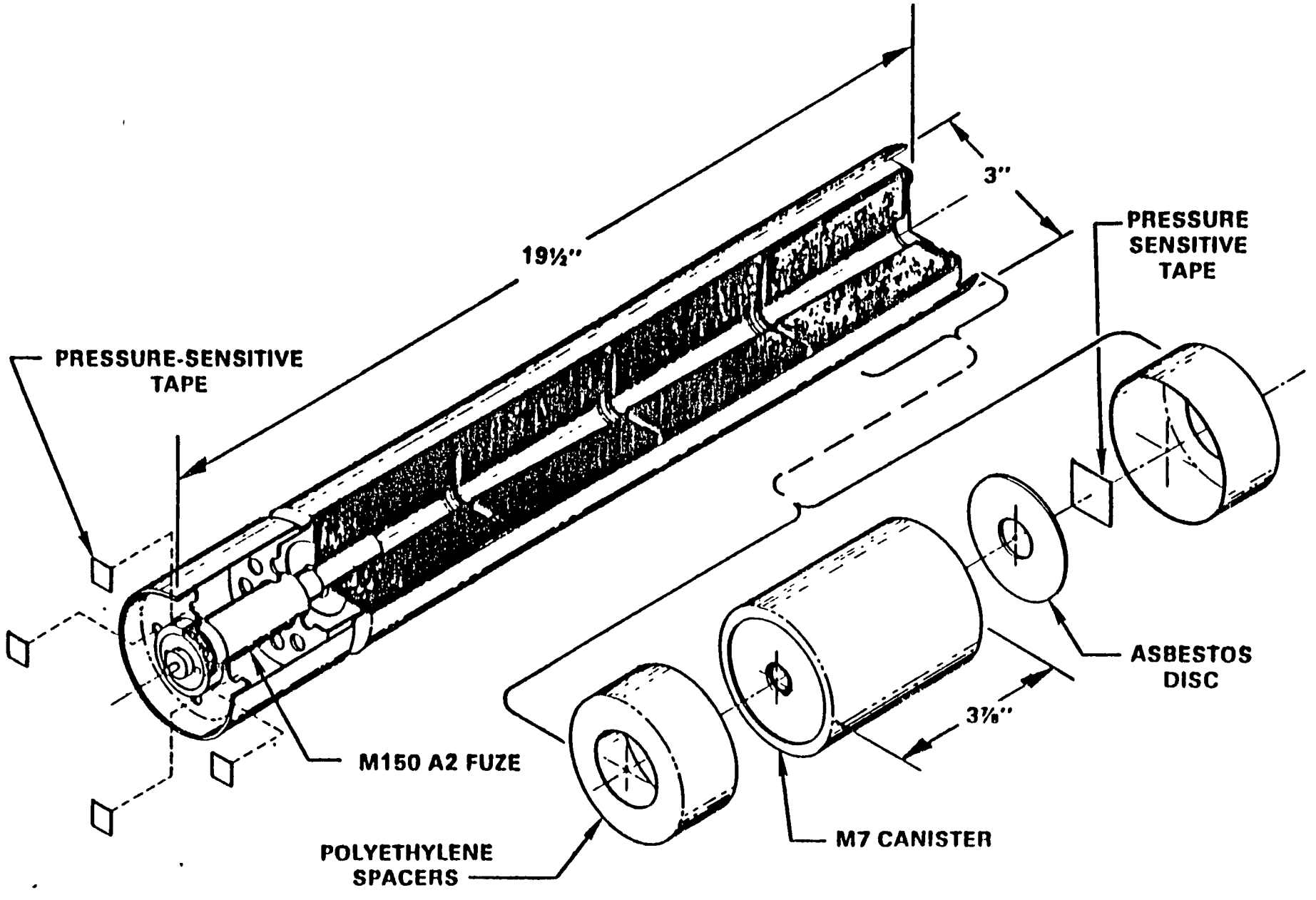


FIGURE C-2 . M138 BZ BOMB ASSEMBLY

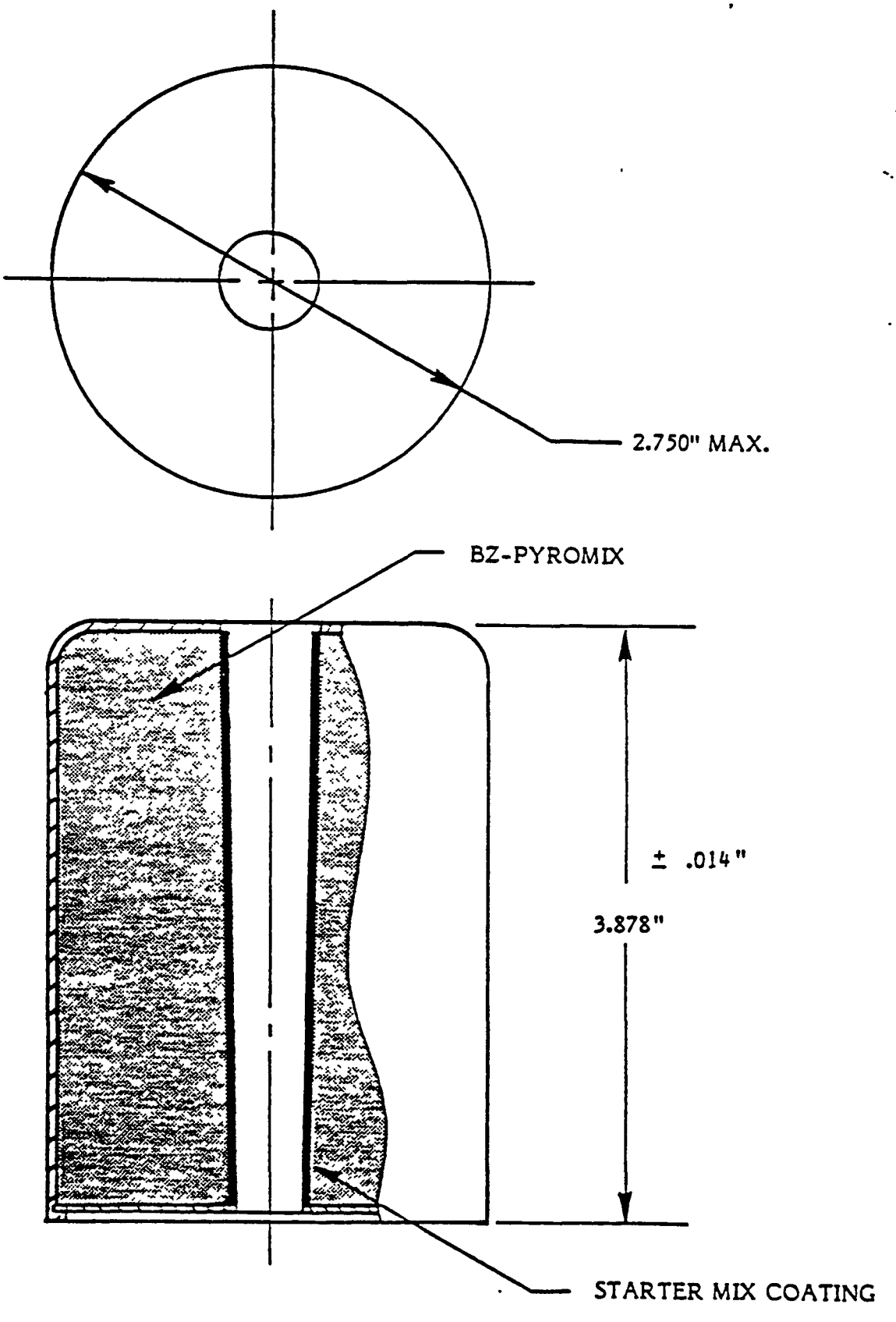


FIGURE C-3. M7 CANISTER FOR M43 MUNITION

TABLE C-2

Properties of Starter Mix and BZ-Pyromix

Starter Mix

Composition	$KClO_3$	42.6%
	S	16.6%
	$NaHCO_3$	29.6%
	Cornstarch	9.9%
	Nitrocellulose	1.3%

BZ-Pyromix

Composition:	BZ	50%
	$KClO_3$	23%
	$NaHCO_3$	18%
	S	9%

Form:	Pressed white to light yellow powder
Impact Sensitivity:	50% chance of initiation with 43 cm drop of a 2 kg quantity
Detonability:	non-detonable
Heat of Combustion:	7290 BTU/lb
Ignition Temperature:	Uncertain -- nominally 150 C to 200 C, but may be as low as 75 C

TABLE C-3

Composition of Fuzes

Charge	Weight of charge	Composition of charge	
M150A2 Fuze			
Primer	23 mg	Lead Styphanate	53%
		Antimony Sulfide	10%
		Barium Nitrate	22%
		Aluminum powder	10%
		Tetracene	5%
First Fire Mix	< 7.7 g	Silicon	24.5%
		Red Lead	49.1%
		Titanium powder	24.5%
		Nitrocellulose	1.8%
Delay Mix	< 6.1 g	Silicon	9.8%
		Red Lead	88.4%
		Nitrocellulose	1.8%
Ignition Mix	180 mg	Iron Oxide	49.1%
		Titanium powder	31.9%
		Zirconium powder	17.2%
		Nitrocellulose	1.8%
M220 Fuze			
Primer	23 mg	Diazodinitrophenol	
First Fire Mix	< 7.7 g	Silicon	32.4%
		Red Lead	54%
		Titanium powder	11.8%
		Nitrocellulose	1.8%
Delay Mix	< 5.8 g	Silicon	9.8%
		Red Lead	88.4%
		Nitrocellulose	1.8%
Ignition Mix	180 mg	Iron Oxide	49.1%
		Titanium powder	31.9%
		Zirconium powder	17.2%
		Nitrocellulose	1.8%

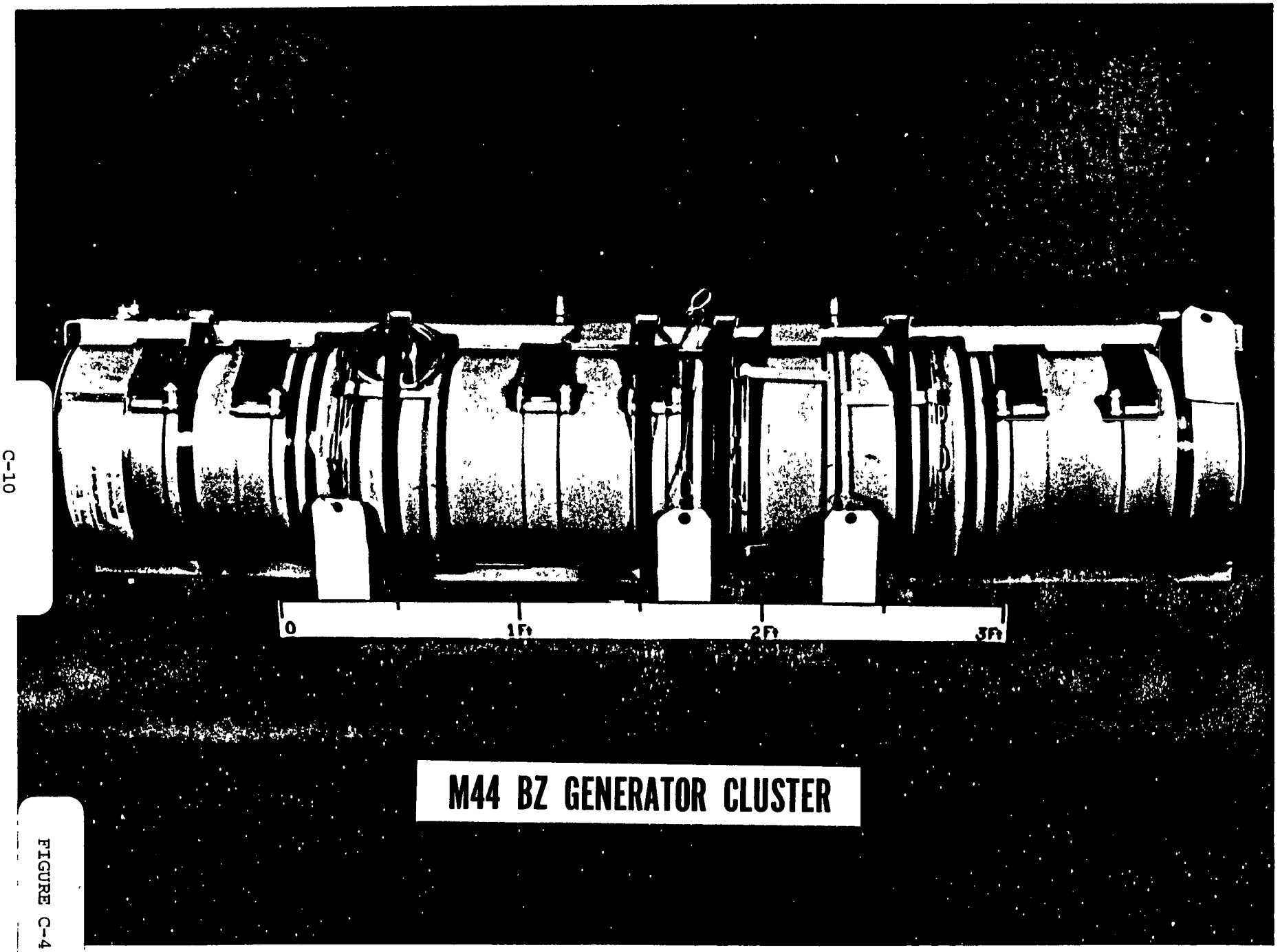


FIGURE C-4

CLUSTER. GENERATOR INCAPACITATING BZ, 175lb M44 22744

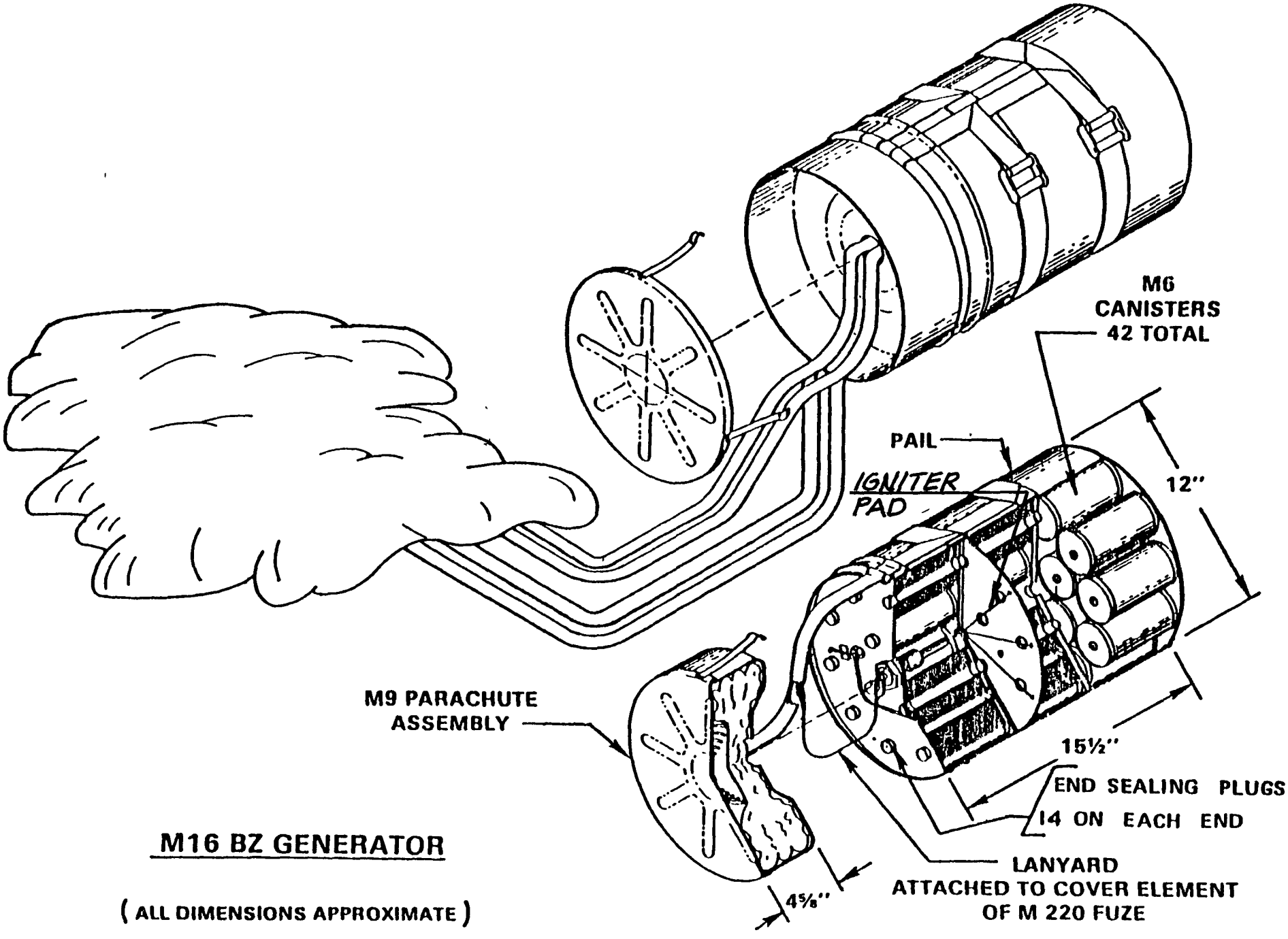


FIGURE C-5. M16 GENERATORS FOR THE M44 MUNITION

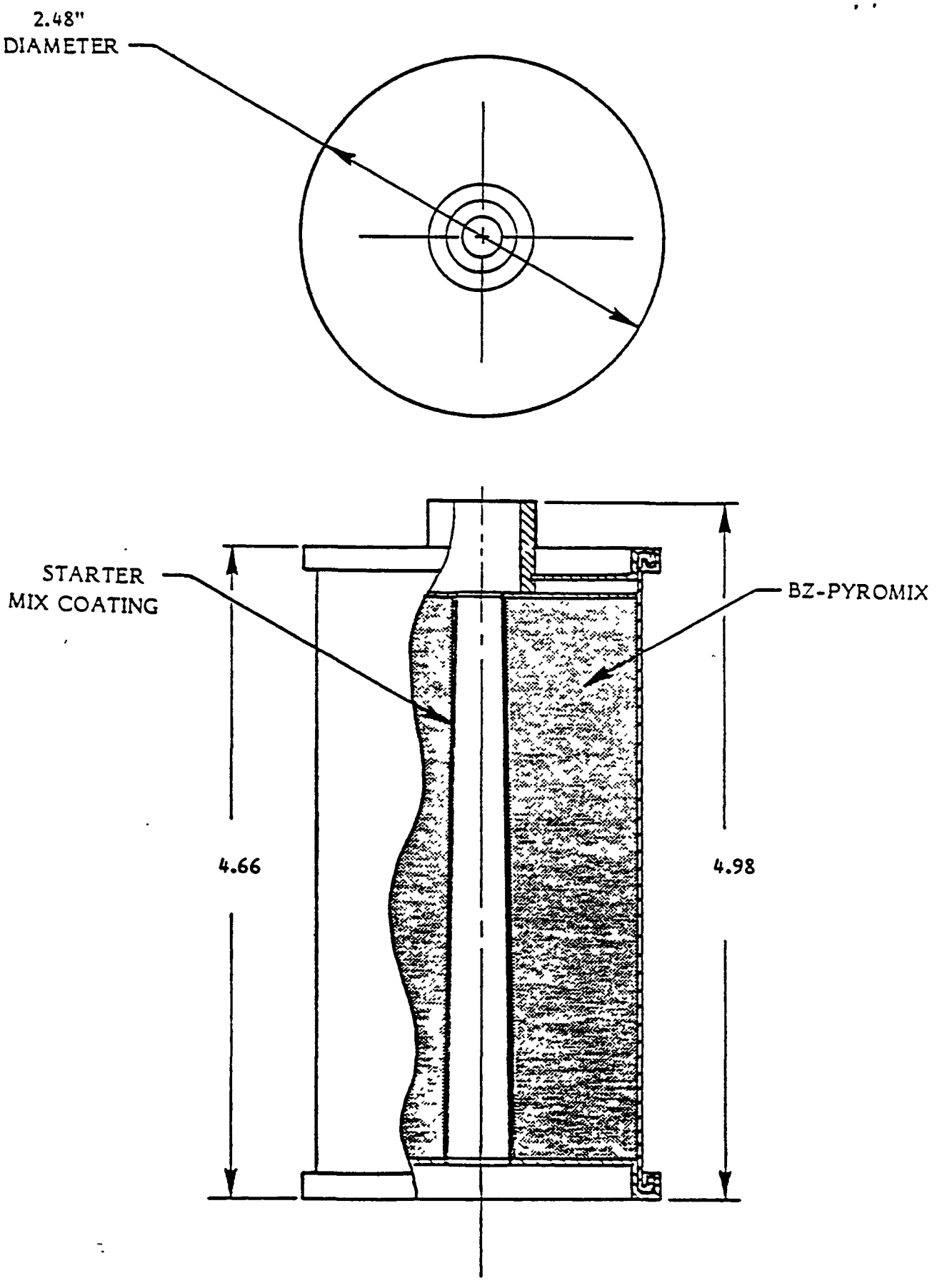


FIGURE C-6. M6 CANISTER FOR M44 MUNITION

determined that this munition is a Class B explosive; by definition it will be a reactive waste under 40CFR 261.23(a)(8).

Each M44 is packed in a wooden box. The box is marked with an inventory control number uniquely identifying the particular box and keyed to the munition it contains. When the munition is processed for demilitarization, the wooden box, the two metal bars, the three generators cans, the three parachutes, and the three ignitor pads will be separated from the BZ-containing canisters and destroyed by burning. These materials, when separated from the active components, are not considered to be hazardous wastes as defined by RCRA. The M220 fuses and the M6 canisters are hazardous wastes and will be destroyed in the rotary deactivation furnace.

M6 and M7 Canisters

A few of the M43 and M44 munitions have already been downloaded into M6 and M7 canisters, respectively, during previous download tests. These canisters are currently stored in 55 gallon drums. They will be treated in the same manner as the M43 and M44 munitions.

Liquid Residues

A solution containing 10 percent sodium hydroxide (caustic soda), 10 percent water and 80 percent methyl cellosolve (known as CMC -- caustic methyl cellosolve) has been used to decontaminate materials which have been contaminated by BZ. A quantity of this solution was used in the closure of the BZ munitions production facility and in tests incident to developing the demilitarization process. It is presently being stored in 55 and 85 gallon drums at the Bond Road Exclusion Area at Pine Bluff Arsenal. This solution

was used in the operations along with dilute (less than 5 percent) acetic acid. The spent residues of both solutions and wash water were commonly collected together in a sump and pumped into drums for storage. The drummed solution therefore is a mixture of caustic soda, acetic acid, sodium acetate, methyl cellosolve and water in various proportions. The exact composition of any given drum is not known, but will have the limiting composition of 5 percent aqueous acetic acid or the 10 percent water-10 percent caustic soda-80 percent methyl cellosolve described above. A number of these drums have corroded over the years. These drums have been placed in 85 gallon overpack drums that are fitted with a removable lid. The areas where the leakage occurred were decontaminated and the residues placed in drums, which are also stored in the Exclusion Area.

No Appendix VIII materials were present during the cleanup of the BZ munitions production facility, so no significant contamination of the CMC by Appendix VIII materials is expected.

The CMC solution is an ignitable (D001) waste as defined by RCRA because it has a flash point of 133° F. Many of the drums of liquid residue in storage will not be ignitable because the CMC mixture will have been diluted with water to give a concentration of less than 48 percent methyl cellosolve. Below 48 percent methyl cellosolve, the flash point of the solution is above 140° F. Since these drums of diluted materials are not separately identified, all drums of liquid residues will be considered to be ignitable for this permit application. The CMC-H_2O solution is not a corrosive waste because the pH of the fresh solution is less than 11.4. A pH of less than 2.0 is not possible because any acid materials (acetic acid) used in the Army decontamination activities had a pH above 2.0.

Three drums of used hydraulic oil, possibly contaminated with BZ, also are contained in the inventory. Although records or analyses are not available to verify its composition, the hydraulic oil in stock, and routinely used, during the time when this oil was in use was a light turbine mineral oil with a specification number of MIL-L-15016. This material is not a hazardous waste as defined by RCRA, because it does not exhibit any of the characteristics listed in 261 Subpart C; in particular, it is not ignitable because its flash point is 390 F. There is no reason to suspect that the oil is contaminated by PCBs; however, the oil will be tested, and if PCBs are found in concentrations above 500 ppm, the oil will be disposed of in a manner permitted by TSCA.

Solid Residues

A quantity of miscellaneous solid residues possibly contaminated with BZ is also in the inventory. These residues consist of spent ion exchange resin used to decontaminate the 0.05 N sulfuric acid used in the cleanup of the production operation, residues from sandblasting the painted concrete walls of the production facility, used HEPA filters from the production operation, fiberglass insulation, metal equipment, refrigeration parts, wood dunnage, contaminated clothing, tools, etc. None of this material is classified as hazardous waste under RCRA.

A quantity of BZ also is contained in inventory. This material is not a hazardous waste as defined by RCRA because it is not listed in 261 Subpart D and does not exhibit any of the characteristics listed in 261 Subpart C.

Wastes Generated During Demilitarization

Several liquid wastes and solid residues will be produced during the demilitarization operation. All liquid process wastes will be burned in the plant incinerators and none will leave the facility. Although the wastes could be hazardous by derivation as defined in 261.3(c)(2), most will not exhibit any of the characteristics of a hazardous waste defined in 261 Subpart C and will therefore not be hazardous. The following wastes will be generated during the processing of the BZ-contaminated items:

(A) The following wastes are not hazardous wastes because they do not exhibit any of the characteristics listed in 261 Subpart C:

(1) Floor Washings from Inerting Area -- water slightly contaminated with inerting solution and acetic acid decontaminating solution -- not a hazardous waste --disposed of in the Liquid Incinerator

(2) Spent Washdown Solution from Other Building Areas -- 1 to 10 percent acetic acid solutions used for general decontamination of BZ contaminated surfaces -- not a hazardous waste, pH greater than 2.0 -- disposed of in the Liquid Incinerator

(3) Water from Personnel Showers -- used soapy water -- not a hazardous waste -- disposed of in the Liquid Incinerator

(4) Used HEPA Filters -- filters from the building ventilation system -- not a hazardous waste -- disposed of in a metal parts furnace

(5) Used Charcoal Absorber Cartridges -- from the building ventilation system -- not a hazardous waste -- treated in a metal parts furnace

(6) Mixed Furnace Residue -- burned out metallic parts, metallic oxides and salts, and carbonaceous ashes --not a hazardous waste -- A sample of the residue from the incineration of an M138 bomblet and the residue from the incineration of unused CMC mixture have been tested for EP Toxicity and have been found not to exceed the criteria established. The test results are shown in Table C-4. -- This waste will be stored temporarily in a waste pile prior to disposal in a Pine Bluff Arsenal landfill.

(7) Spent Solution From Decontaminating Clothing -- A solution of 0.1 percent sodium hydroxide, detergent, and water will be used to decontaminate clothing and boots -- This solution is not a hazardous waste because it has a pH of less than 12.5 -- It will be drummed and disposed of in any of the metal parts furnaces.

(8) Laboratory Wastes -- Very dilute acids and alkalis used in laboratory analyses -- Not a hazardous waste -- disposed of in the liquids incinerator -- Any waste solvents generated by the laboratory will be disposed of off-site in a permitted facility.

TABLE C-4

Results of EPA Extraction Procedure Tests on

Residues from BZ Munitions and CMC Burns

Contaminant	Concentration in Extracts, mg/l		RCRA Limit mg/l
	Munition Residue	CMC Residue	
Arsenic	< 0.5	< 0.5	5.0
Barium	<10	<10	100
Cadmium	< 0.1	< 0.1	1.0
Chromium	< 0.5	< 0.5	5.0
Lead	< 0.5	0.86	5.0
Mercury	< 0.02	< 0.02	0.2
Selenium	0.164	< 0.1	1.0
Silver	< 0.5	< 0.5	5.0

(B) The classification of the following waste is not known.

Bag House Dust -- mainly potassium and sodium salts and oxides with some other metallic salts and oxides -- small quantities (up to 10 drums) will be generated during the life of the facility -- It is not known whether this waste will exhibit the characteristics of a hazardous waste, particularly EP toxicity; however, it will be tested as soon as material becomes available and will be disposed of in an approved facility as indicated by the results of that test. Until the test results are available, the waste will be stored in a facility which has interim status approval for storing such RCRA Hazardous Wastes.

(C) The following waste is hazardous because it exhibits a characteristic listed in 261 Subpart C:

Spent Solution from Decontamination -- A solution of 1.0 percent sodium hydroxide, detergent and water used to decontaminate equipment and surfaces -- This solution is a corrosive waste because the pH will be over 12.5. It will be drummed and disposed of in a permitted metal parts furnace.

C-1a. Containers [270.15].

The containment system requirements for storage areas that store containers holding free liquids are more stringent than for storage areas that store containers holding only wastes that do not contain free liquids.

The storage igloo, described in Section D-1 for Waste Holding Facility, stores containers holding free liquids as well as containers holding wastes that do not contain free liquids; therefore, the requirements of 40CFR 270.15(b) regarding testing for free liquids is not applicable.

C-1b. Tanks does not apply to this Permit Application.

C-1c. Waste Piles does not apply to this Permit Application.

C-1d. Surface Impoundments does not apply to this Permit Application.

C-1e. Incinerators [270.16].

C-1e(1). Trial Burn.

A trial burn is not proposed.

C-1e(2). Data in Lieu of Trial Burn.

Data in lieu of a trial burn is not required because an exemption from trial burn is being requested.

C-2. Waste Analysis Plan [270.14 (b)(3)].

In general, no analysis is needed to characterize the wastes to be handled in the BZ demilitarization process. The items to be processed were generated at Pine Bluff Arsenal under known and controlled conditions and were distinctively marked, inventoried and stored in a high-security area. Detailed records have been kept of the quantity, identity, and storage location of all BZ-contaminated items. The items are stored in the Bond

Road Exclusion Area at the Arsenal under constant guard, and unauthorized access is prohibited.

Each item coming into the facility for demilitarization will be identified by cross reference of the inventory records and the markings on the items. Any situations where the records and the markings do not correspond will be identified, and a special check of the contents of the container made when the item reaches the facility.

Due to the danger to personnel caused by the BZ contamination of the items, the items cannot be opened or sampled outside of special areas of the facility and without special protective clothing.

Regular analyses of the items to be processed are not necessary for the following reasons:

Munitions -- The munitions were produced to fixed specifications and are distinctively marked. Their appearance is unique and they cannot be mistaken for any other material likely to be in the area. Extensive inventory records will assure that the proper items are transported to the demilitarization facility, and the extensive security precautions taken at the storage area will prevent unauthorized access or tampering.

CMC-H_2O Solution -- The original material was produced by mixing pure materials of known composition according to a fixed procedure. It was used as a bath in which to immerse the parts from the BZ production equipment and to decontaminate areas which became contaminated with BZ. After use it was normally drained into a sump and pumped into drums. Contamination with Appendix VIII materials is considered to be unlikely. The used material was

drummed, labeled, inventoried and stored in the same high-security area as the munitions. The material is expected to be ignitable and will be handled as such. The method of incineration in a batch pyrolysis furnace renders the knowledge of any other properties of the mixture unnecessary.

Furnace Residue -- This material is not a RCRA hazardous waste based on previous testing described on Table C-4.

Bag House Dust -- It is not known whether this material is hazardous as defined by RCRA. When the material becomes available, it will be tested for EP Toxicity using the procedures specified in 40CFR 261, Appendix II. The nature of the material - a solid residue from combustion - precludes it from being ignitable, corrosive, or reactive. Tests for these characteristics are therefore considered unnecessary. If the test shows that it is hazardous, it will be disposed of in a suitable landfill. Any additional analyses required for this disposal will be run at the time of disposal.

BZ -- This material is not a RCRA waste.

C-2a. Parameters and Rationale

The baghouse dust will be tested for EP Toxicity because it may contain heavy metals.

SECTION D

D-1. Containers.

It should be noted that some containers hold free liquids and some do not. An inventory of all items to be demilitarized at the BZ Demilitarization Facility is shown in Table D-1.

All items to be demilitarized will be circulated through the Containment System which is the Munitions Holding Area (MHA) located on the BZ Demilitarization Facility site. The Munitions Holding Area is sometimes referred to as the "igloo".

Table D-1 does not necessarily reflect the order in which the items will be demilitarized.

Storage volume restrictions and regulations for the Munitions Holding Area dictate that only a 3 to 4 day backlog of items to be demilitarized can be stored in the Munitions Holding Area. This should be an adequate backlog to insure continuous BZ Demilitarization Facility operation if inclement weather interrupts the flow of items from the existing Pine Bluff Arsenal exclusion area igloo.

D-1a. Containers with free liquids.

D-1a(1). Description of Containers. [264.171; 264.172].

There is a total of 1,030 separate drums containing liquids to be disposed of at the BZ Demilitarization Facility. 1,027 drums contain caustic methyl cellosolve (CMC) mixed with water and three drums contain hydraulic oil. All liquids are in 55 gallon steel drums, except that 459 of

D. PROCESS INFORMATION

TABLE D-1

WASTE INVENTORY

Munitions	Quantity/Storage Configuration		
M43 Bomb Cluster	519	2 each per crate	
M44 Generator Cluster	973	1 each per crate	
M6 Canisters	4,336	in 47- 55 gallon drums (c)	
M7 Canisters	2,292	in 32- 55 gallon drums (c)	
Solid Residues	**55 ga. drums(c)**	**85 gal. overpacks(d)**	**Total**
Ion-exchange resin	0	27	27
Sand	25	0	25
Filters	18	3	21
Insulation	31	0	31
Metal Parts(a)	111	0	111
Metal Parts (b)	54	0	54
Wood	612	0	612
Miscellaneous tools, clothing, pipe, etc.	109	20	129
Burned Submunitions	5	0	5
	965	50	1,015
Liquid Residues	**55 gal. drums(c)**	**85-gal. overpacks(d)**	**Total**
CMC-H_2O mix (f)	571	456	1,027
Hydraulic oil	0	3	3
	571	459	1,030

BZ(e): 242 ea., 16 gal. pails inside 30 gal. overpack drums

Miscellaneous Metal Parts in Metal Bins: 4 each at 93" x 33" x 37"

(a) Metal parts from refrigeration equipment

(b) Metal parts from disassembled munitions

(c) 55 gallon drums are stored 4 per pallet

(d) 85 gallon overpack drums are stored 2 per pallet

(e) 30 gallon overpack drums of neat BZ are stored 4 per pallet

(f) Additional CMC could be generated.

the drums have subsequently been placed in 85 gallon overpack drums because of leaks. The lid of each 55 gallon liquid waste drum is crimped in place.

The 55 gallon drums specifications follow: Drum, universal steel, 55 gallon (208 l.) tight head, (DOT-17E, Ufc-Rule 40, Nmfc - item 260), 1979; and Drum, 55 gallon (208 l.) full removable head, universal steel, (DOT-17H, Ufc Rule 40, Nmfc - item 260), 1979. Each drum, including the overpack drums, is clearly marked as to its contents.

D-1a(2). Container Management Practices. [264.173; 264.176].

All 55 gallon drums containing liquids are currently sealed by crimped lids and will remain sealed until the lids are punctured just prior to incineration inside the BZ Demilitarization Facility.

While the drums are stored in the on-site igloo (the Munitions Holding Area), they will be stored in a manner that does not allow any possibility of puncture by contact with other drums. Pallets that do not allow drum rim to adjacent drum lid contact will be used when the drums are stacked.

Pine Bluff Arsenal will maintain aisle space within the Munitions Holding Area to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any part of the Munitions Holding Area as required by 40CFR 264.35.

Drums containing liquids will be stored in the igloo (the Munitions Holding Area) on ordinary wooden pallets which are intended to be moved using a forklift. The pallets contain four 55 gallon drums or two 85 gallon overpack drums each. If only the 55 gallon drums are considered at any one time, there would be a maximum of 60 in storage. This assumes four drums per pallet stacked two pallets high. The storage floor space plan inside the Munitions Holding Area provides a minimum 3 foot wide aisle for

personnel passage, inspection, and fire protection operations; and a minimum 10 foot wide operating aisle for the forklift movement. These dimensions are in compliance with the aisle space requirements of 40CFR 264.35.

The CMC solution is an ignitable waste as defined by RCRA because of its 133 degree (F) flashpoint. The Munitions Holding Area meets the 50 foot property line set-back requirement of 40CFR 264.176 as can be seen on Sheet C-1 of the Permit Application Plans.

The drums on their pallets will be lifted from the delivery vehicle bed by a forklift, moved into the Munitions Holding Area (the igloo), and placed according to the established stacking and aisle space requirements. The pallets and drums will also be moved from the Munitions Holding Area to the Drum Preparation Area (DPA) by forklift to an established schedule. The pallets and drums will therefore be circulated thru the Munitions Holding Area on a regular basis using a forklift as the means of movement.

D-1a(3). Containment System Design and Operation [270.15 (a)(1)].

The term "Containment System" is synonymous with "Munitions Holding Area" and various terms containing the word "igloo".

Design, dimensional, and location details of the Munitions Holding Area are shown on Sheets S-44 thru S-46 of the Permit Application Plans.

The Munitions Holding Area (igloo) is a typical standard U. S. Army ammunition storage building design. It is a corrugated metal arch structure covered by at least three feet of earthen material and vegetative growth. The inside floor is concrete and is constructed to allow drainage of any incidental liquids into interior sumps which can be drained. Groundwater outside the Munitions Holding Area is intercepted by a perforated underdrain system and surface run-off and run-on is controlled by site grading. Access to the Munitions Holding Area interior is controlled by a locked door fitted

with intrusion detection system (IDS) sensors and further secured by a massive concrete block requiring a forklift for movement.

The adequacy of the Munitions Holding Area to collect and contain leaks and spills is addressed in Section D-1a(3)c of this Permit Application.

D-1a(3)a. Requirement of the Base (Floor) of the Munitions Holding Area to Contain Liquids [264.175 (b)(1)].

The floor of the Munitions Holding Area will be designed, constructed, and inspected to insure that it is free from cracks or gaps. The cast-in-place concrete floor is sufficiently impermeable as to allow adequate time for liquid leakage or spill removal. Details of the floor materials, design, and construction are shown on Sheets S-44 thru S-46 of the Permit Application Plans. Implicit in the design of the Munitions Holding Area is adequacy of the structural integrity of the entire Munitions Holding Area.

D-1a(3)b. Drainage [270.15 (a)(2); 264.175(b)(2)].

As mentioned earlier, the floor, drainage channels, and sumps inside the Munitions Holding Area will collect and hold liquids from leaks or spills until such liquids can be removed. Due to the anticipated daily entry of BZ Demilitarization Facility operating personnel, it is highly unlikely that a leak or spill would go undetected for more than a very short period of time. However, the drums would be elevated above the level of any accumulated liquids since all drums will be on shipping pallets.

Sheets S-44 thru S-46 of the Permit Application Plans detail the floor and liquid containment capability of the Munitions Holding Area.

D-1a(3)c. Capacity [270.15 (a)(3); 264.175 (b)(3)].

The maximum quantity of liquid in storage at any one time would be 60 drums of 55 gallons each. This equates to 3,300 gallons of liquid assuming that each drum is full. The floor, drainage channels, and sumps of the Munitions Holding Area interior are designed to collect and hold 330 gallons of liquid until such liquid can be removed. This containment capacity is equal to 10 percent of the total maximum storage volume inside the Munitions Holding Area.

Although the largest of the liquid containers has a capacity of 85 gallons, it is an overpack drum into which a leaking 55 gallon drum has been previously placed. The maximum storage volume inside the Munitions Holding Area is therefore controlled by the presence of the 55 gallon drums.

D-1a(3)d. Run-on Control [270.15 (a)(4); 264.175 (b)(4)].

Average annual rainfall at Pine Bluff Arsenal is about 54 inches. Local storms of 10-year return frequency, for example, have an intensity of about 5.5 inches per hour.

Surface run-on control at the Munitions Holding Area is provided by the topography and construction slopes and grades. The Munitions Holding Area is situated atop a local "high spot". Furthermore, the earthen berm covering the Munitions Holding Area is sloped in all directions to carry rainwater or other run-on away from the Munitions Holding Area entrance.

Topographic contours, elevations, and details of Munitions Holding Area run-on management are shown on Sheet C-3 of the Permit Application Plans.

D-1a(4). Removal of Liquids From Containment System [270.15 (a)(5);264.175 (b)(3).]

Management of accumulated liquids to prevent overflow is incorporated into the design of the Munitions Holding Area floor, drainage channels, and

sumps. As mentioned earlier, the Munitions Holding Area provides for spill and leak collection and containment in compliance with the requirements of 40CFR 264.175 (b)(3). Any liquids from spills or leaks will, upon detection, be immediately transferred into new drums and stored for demilitarization as before the spill or leak. Any spills or leaks will be decontaminated and the decontamination solution will also be drummed and stored for disposal.

Sampling and analysis of collected liquids will not be necessary since the nature of wastes stored in the Munitions Holding Area will be known at all times.

The capacity of the containment/removal system is about 330 gallons.

Sump pumps inserted into the two interior sumps will be used to transfer any accumulated liquids to new storage drums.

D-1b. Containers Without Free Liquids.

A discussed in Section D-1 of this Permit Application, the Munitions Holding Area will store various containers -- some of which hold free liquids and some of which do not. Implicit in this is that the Munitions Holding Area must be designed and constructed to comply with the requirements of the more stringent "free liquids" regulations of 40CFR 270.15 (a) and 264.175 (b).

D-1b(1). Test for Free Liquids [270.15 (b)(1)].

The requirements of 40CFR 270.15 (b)(1) are unnecessary and do not apply to the Munitions Holding Area since accommodation of free liquids is provided for. See discussion of this in Section D-1b of this Permit Application.

D-1b(2). Description of Containers [264.171; 264.172].

Containers holding wastes that do not have free liquids are the same types of 55 gallon and 85 gallon overpack drums in addition to the other types of containers listed in Table D-1 and discussed in Section D-1 of this Permit Application. The numbers, types, and sizes of non-free liquid containers are also shown in Table D-1. The construction materials, contents markings, conditions, specifications and ratings, and compatibility of waste to container is identical to the discussion of these items in Section D-1a(1).

D-1b(3). Container Management Practices [264.173].

Munitions, solid (non-liquid) residues, BZ, and miscellaneous metal parts are containerized as listed in Table D-1. Table D-1 also represents the complete inventory of these items. The solid residues and BZ are in sealed drums and will remain unopened during storage until the actual demilitarization process begins. The munitions are not containerized but are actually sealed units in themselves, and will also remain unopened until beginning the demilitarization process. The miscellaneous metal parts are in open metal bins as described in Table D-1. However, no wastes will either be added to or removed from the bins during the demilitarization process.

While all non-liquid wastes are stored in the Munitions Holding Area, they will be placed in a manner that does not allow contact with other non-liquid containers. Wooden shipping pallets will be used to separate containers when the containers are stacked inside the Munitions Holding Area. Table D-1 indicates the various numbers of containers per pallet.

Pine Bluff Arsenal will maintain aisle space within the Munitions Holding Area to allow the unobstructed movement of personnel, fire

protection equipment, spill control equipment, and decontamination equipment to any part of the Munitions Holding Area as required by 40CFR 264.35, as discussed in Section D-1a(2) of this Permit Application.

A forklift will be the means of movement for all non-liquid waste containers.

The special requirements for ignitable or reactive wastes of 40CFR 264.176 are satisfied since such wastes would be located no closer to the BZ Demilitarization Facility property line than the stated 50 foot minimum. See Sheet C-1 of the Permit Application Plans for the Munitions Holding Area location.

The special requirements of 40CFR 264.177(c) do not apply since there are no incompatible wastes to be stored in the Munitions Holding Area.

D-1b(4). Container Storage Area Drainage [270.15 (b)(2); 264.175 (c)].

The description of how the Munitions Holding Area is designed and operated to remove liquids and how containers are kept from contact with standing liquids is addressed in Section D-1a(3)b of this Permit Application.

D-2. TANKS

D-2a. Description of Tanks [270.16; 264.191].

Each BZ munition will be subjected to an inerting process while contained in one of four identical industrial autoclaves shown in detail in Figure D-1. These 330-gallon-capacity autoclaves will be constructed of 3/16-inch-thick SA-240-304 stainless steel and are designed to operate at

either a full vacuum or 100 psig pressure while containing a munition and an aqueous solution. The design will satisfy Section 8 Division 1 of the ASME pressure vessel code and the vessels will be affixed with a 1980 code stamp. All welded seams will be tested by spot radiography. The swing-away door will be sealed with a sandwich gasket composed of tetrafluoroethane with a blue asbestos filler. All plumbing connections will be attached via ANSI 150 pound flanges or the equivalent. The tank supports are designed for seismic zone 2 with no wind load.

During the inerting process, the vessel will be filled to within one inch at the top with a non-hazardous aqueous inerting solution that contains less than 1.1% $KClO_3$ and 0.8% $NaHCO_3$ and has a specific gravity of approximately 1.02 and a pH of between 8 and 9. The treatment operation will be conducted at ambient temperature.

D-2b. Tank Corrosion and Erosion [270.16 (b)].

Tank erosion is not considered to be a potential problem. To prevent corrosive attack by the chlorate contained in the inerting solution, the tank is constructed from SA-240-304 stainless steel alloy. The 1974 NACE Corrosion Data Survey indicates that the corrosion of this alloy by the inerting solution would be less than 2 mill/year. Since the operating life of the vessel will be 18 months, no corrosion allowance is required. However, since the vessel code requires a wall thickness of only 1/8 inch, the 3/16-inch wall specified in the design provides a safety margin for unanticipated attrition of the vessel. Additionally, the tanks are on sealed concrete pads with curbs and sumps capable of containing the inerting solutions of all four (4) tanks.

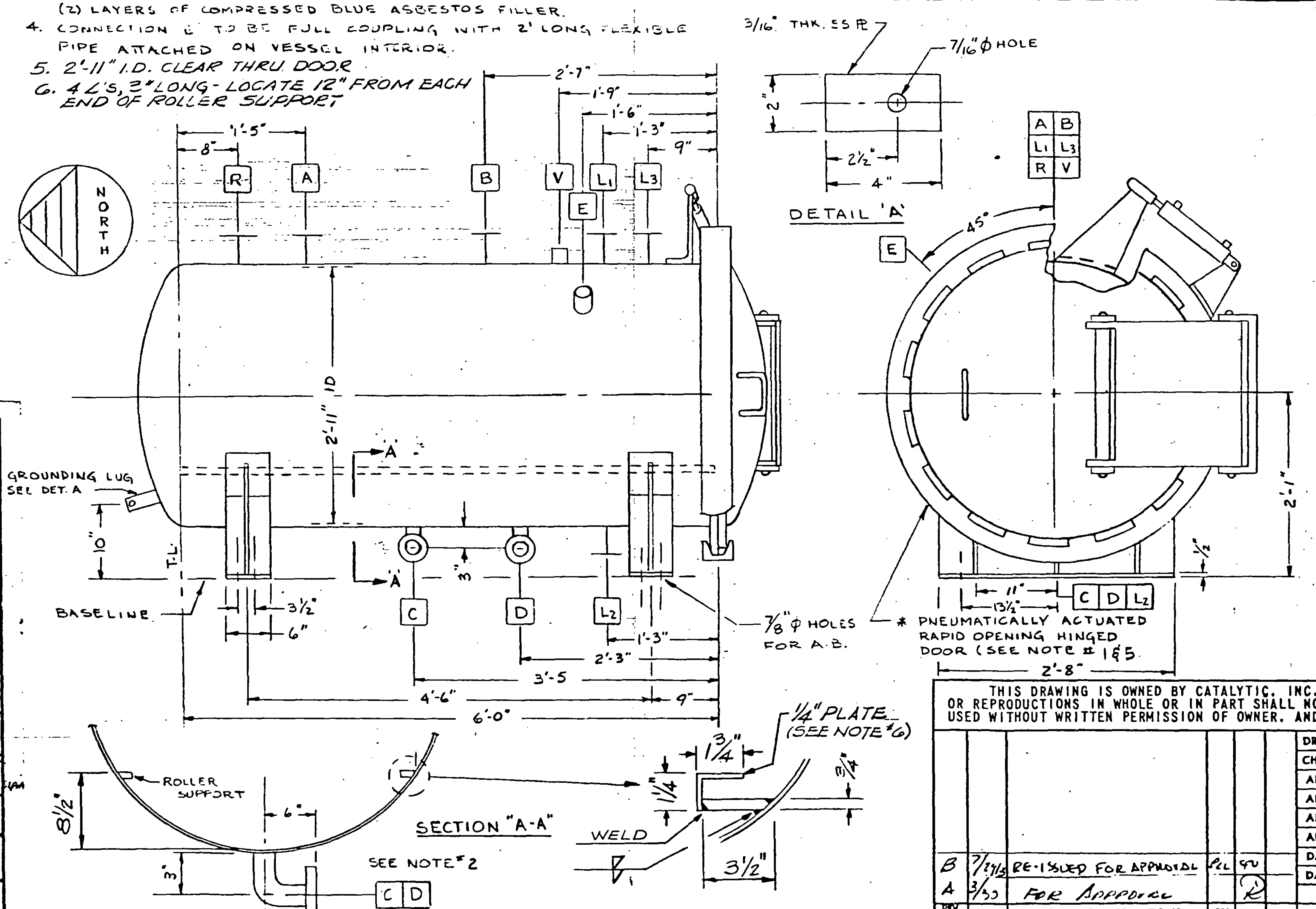
NOTES :

1. VENDOR TO SUPPLY PNEUMATIC DOOR LOCKING CYLINDER (POSITIVE OPERATING) AND DUAL SOLENOID AIR VALVE (MOUNTED AND PIPED). SYSTEM TO OPERATE ON 110VAC SIGNAL WITH MAXIMUM OF 100 PSI AIR. DPDT MICROSWITCHES ARE TO BE MOUNTED ON LOCKING DEVICE WITH STOPS ON DOOR FOR REMOTE OPEN/CLOSED INDICATION.
2. NOZZLES "C" & "D" FACE TO THE WEST ON ITEMS IV-200 A & C AND TO THE EAST ON ITEMS IV-200 B & D.
3. USE 3/16" THK. TETRAFLUOROETHYLENE ENVELOPE WITH TWO (2) LAYERS OF COMPRESSED BLUE ASBESTOS FILLER.
4. CONNECTION E TO BE FULL COUPLING WITH 2' LONG FLEXIBLE PIPE ATTACHED ON VESSEL INTERIOR.
5. 2'-11" I.D. CLEAR THRU DOOR
6. 4 ∠'S, 3" LONG - LOCATE 12" FROM EACH END OF ROLLER SUPPORT

NOZZLE SCHEDULE

MK	SIZE	SERVICE	PROJ.	ELEV.	ORIENT
A	1"	AIR INLET	1'-11 3/4"	SEE DWG	SEE DWG
B	2"	VACUUM	↓		↓
C	2"	VESSEL PUMPOUT	SEE DWG.		SEE NOTE #2
D	2"	FILL	↓		↓
E	3/4"	CASING PUMPOUT	6000 # CPLG.		SEE DWG
L1,2	1 1/2"	LEVEL GAUGE	1'-11 3/4"		
L3	1 1/2"	LEVEL SWITCH			
R	4"	RELIEF	↓		
V	1"	VENT	6000 # CPLG.	↓	↓

SEE NOTE #4 (nozzle E)



DESIGN CONDITIONS ..... F.V. & 100 ..... psig AMB. °F
..... psig ..... °F
OPERATING CONDITIONS ..... 15 ..... psig AMB. °F
..... psig ..... °F
SPECIFIED CORROSION ALLOW. ... –
WIND LOAD ... –
SEISMIC ... ZONE 2
CODE ASME SECTION VIII, DIV. I ..... CODE STAMP ... YES
P.W.H.T. ... – ..... RADIOGRAPHY ... SPOT
MAWP ... – ..... LIMITED BY .....
SHELL SPEC. ... SA-240 304 3/16 THK.
JOINT EFF. ... 0.85
HEAD SPEC. ... SA-240 304 ASME F & D HEAD 3/8 THK. NOM, 36" DR, 2 1/4 ICR
JOINT EFF. ... 1.0 (STRESS - 85%)
CLADDING OR LINING SPEC. ... –
GASKET SPEC. SEE NOTE #3 (PER ANSI DIM. - & FOR DOOR)
SUPPORT SPEC. ... SA-36
EXTERNAL PIPE SPEC. SA-312 TP 304
INTERNAL PIPE SPEC. .....
FLANGE SPEC. ... SA-182 F304 OR A-105 (L.J)
RATING ... 150 # ANSI (EXCEPT "R" - 300 #)
FACING ... RF OR LJ
PAINT .....
INSULATION ... –
FIREPROOFING ... –
SHIPPING WT. 1270 # ..... OPERATING WT. 3750 # TEST WT. 4020 #
ELEVATION MEASURED FROM BASELINE. .....
ORIENTATION MEASURED CLOCKWISE FROM 0°. NORTH IS 0°.
PROJECTION MEASURED FROM ℄ OF VESSEL TO EXTREME FACE OF FLANGE.
CAPACITY ... 330 GAL. (FULL) SP.GR. ... 1.0

REFERENCES:

SPEC. SECTION 15R - PRESSURE VESSELS

FIGURE D-1. INERTING VESSEL

* VENDOR DESIGN

ITEM NO. IV-200 A,B,C,D FOUR (4) REQUIRED

REV. No.	DATE	RECORD OF ALTERATIONS	BY	APPD	APPD
B	7/29/5	RE-ISSUED FOR APPROVAL	PLL	SU	
A	3/30	FOR APPROVAL		R	

DR BY	BLL	3-14-83
CH BY		
APPD		
APPD		
APPD		
APPD		
DATE STARTED		
DATE FINISHED		

CATALYTIC, INC.
ENGINEERING DEPARTMENT, PHILA, PA.

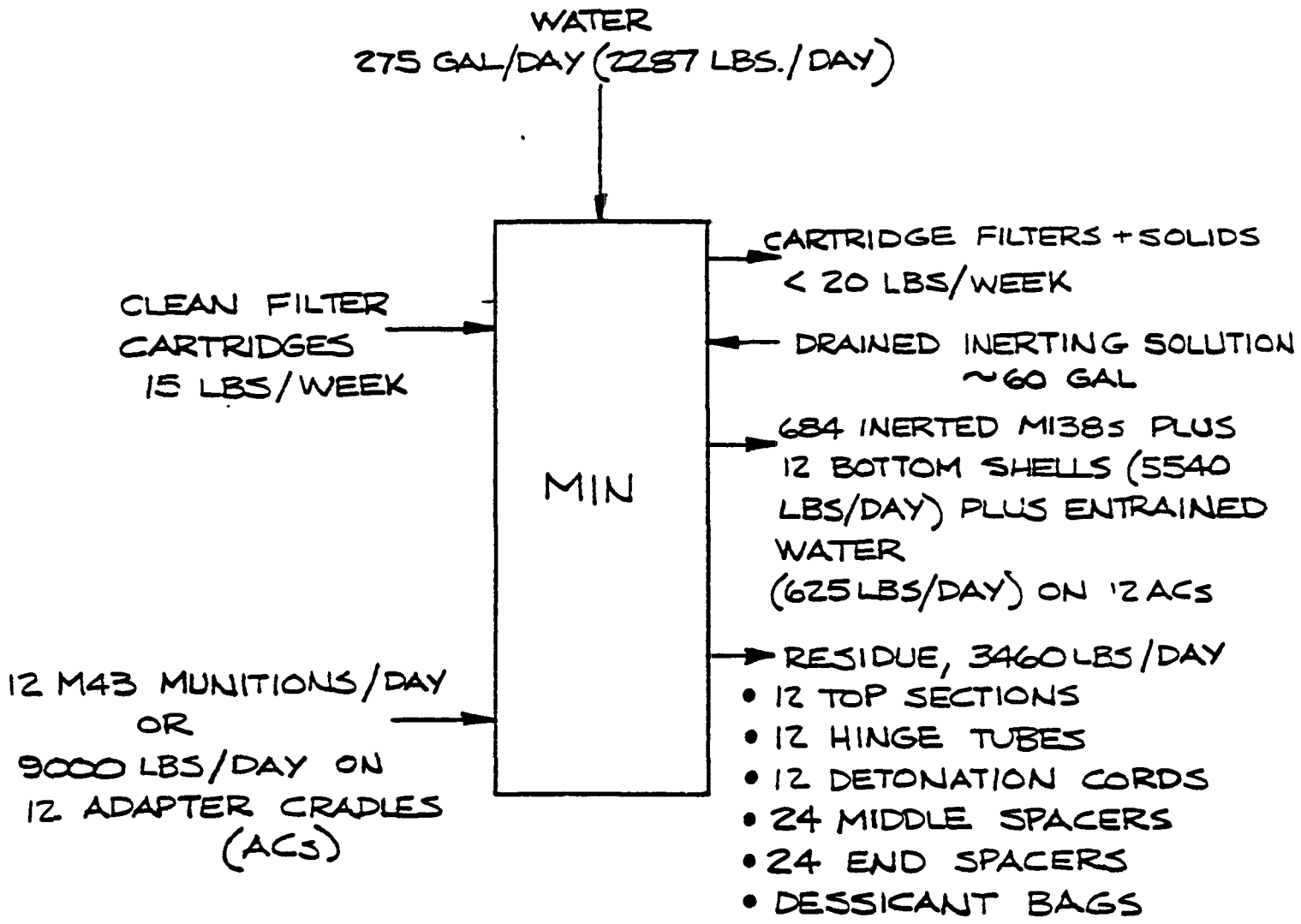
PINE BLUFF ARSENAL
PINE BLUFF, ARKANSAS
CONTRACT DAAK 11-81-C-0080

INERTING VESSEL

SCALE	CONTRACT NO.	JOB NO.	DRAWING NO.	REV No.
	43840		200-V-02	B

D	STAGE	NO. PTS.
7/4	80% SUBMITTAL	
	B	1/6+3
3/3	A	18

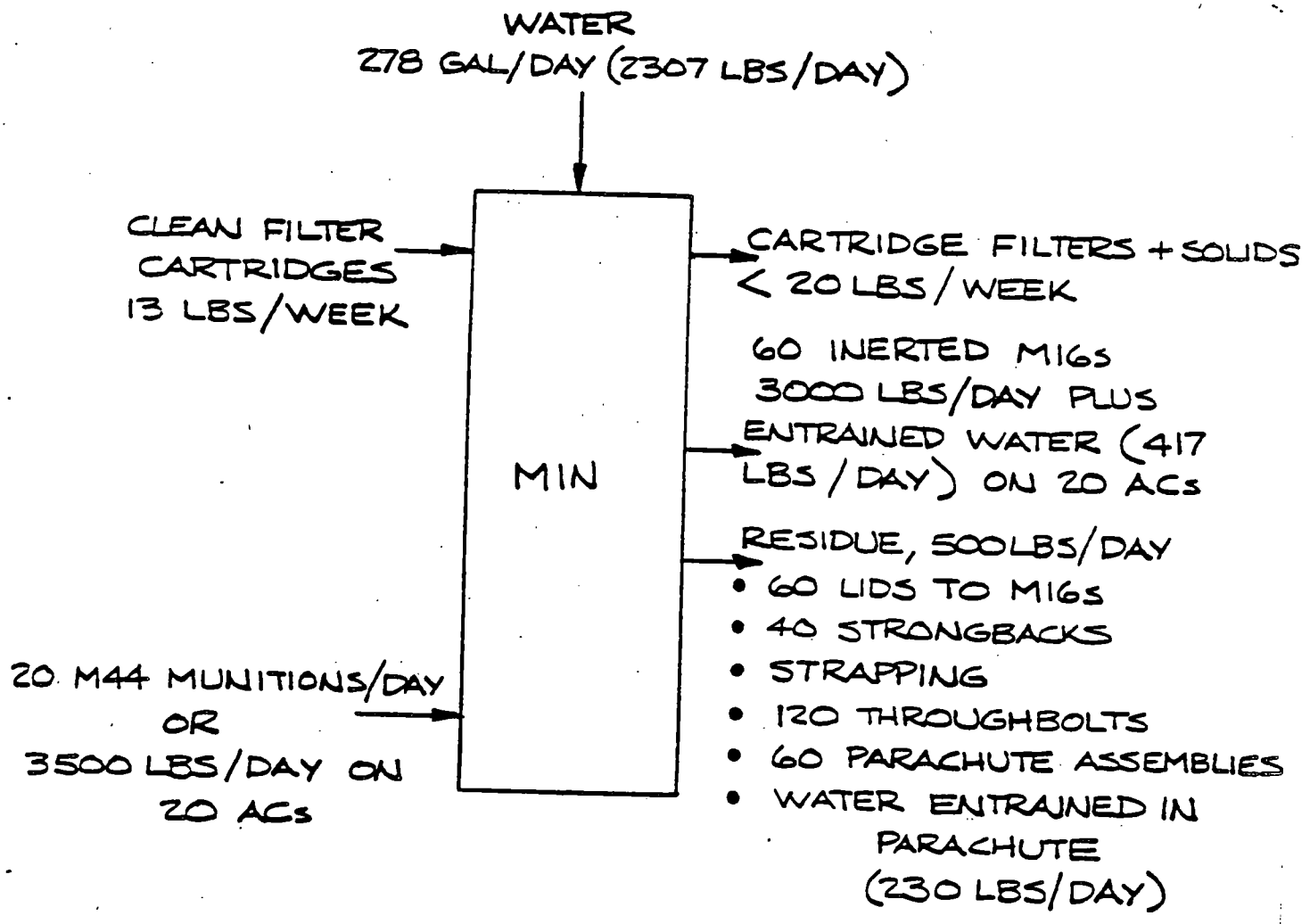
INT RECORD



Note: All acronyms are explained in Table A-1.

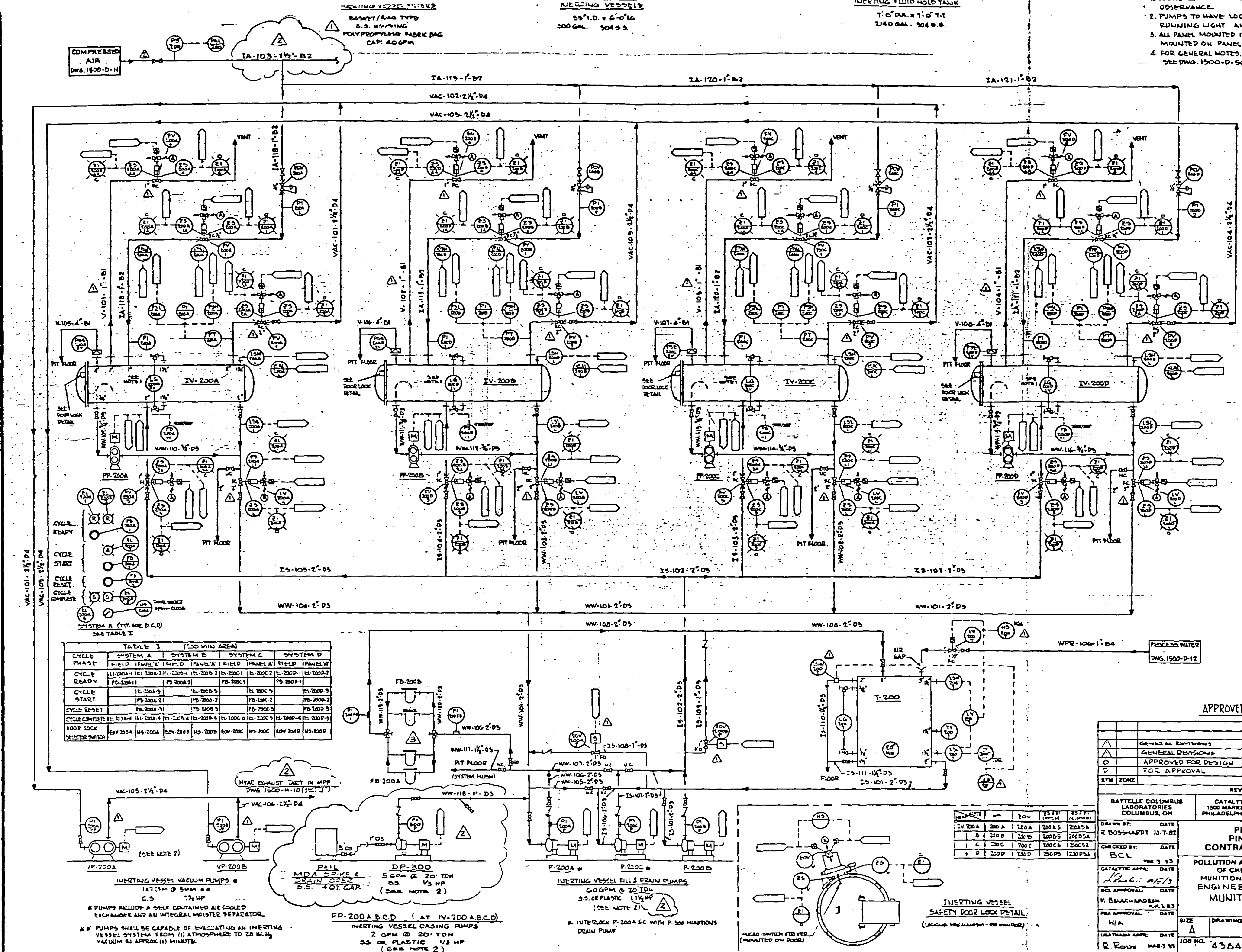
FIGURE D-2. MATERIAL FLOW DIAGRAM FOR MIN PROCESSING OF M43 MUNITIONS.

FIGURE D-2



Note: All acronyms are explained in Table A-1.

FIGURE D-3. MATERIALS FLOW DIAGRAM FOR MIN PROCESSING OF M44 MUNITIONS.



ODSERVANCE.

2. PUMPS TO HAVE LOCAL STOP-START PUSHBUTTONS WITH RUNNING LIGHT AND LOCK-OUT PROVISIONS

3. ALL PANEL MOUNTED INSTRUMENTS SHOWN ON THIS DRAWING, MOUNTED ON PANEL 'A' (200 MIN CONSOLE)

4. FOR GENERAL NOTES, REFERENCE DRAWINGS, LEGEND, ETC. SEE DWG. 1500-D-50.

TABLE I (200 MIN AREA)

CYCLE PHASE	SYSTEM A FIELD	SYSTEM A PANEL 'A'	SYSTEM B FIELD	SYSTEM B PANEL 'A'	SYSTEM C FIELD	SYSTEM C PANEL 'A'	SYSTEM D FIELD	SYSTEM D PANEL 'A'
CYCLE READY	EL-200A-1	EL-200A-2	EL-200B-1	EL-200B-2	EL-200C-1	EL-200C-2	EL-200D-1	EL-200D-2
	PB-200A-1		PB-200B-1		PB-200C-1		PB-200D-1	
CYCLE START		EL-200A-3		EL-200B-3		EL-200C-3		EL-200D-3
		PB-200A-2		PB-200B-2		PB-200C-2		PB-200D-2
CYCLE RESET		PB-200A-3		PB-200B-3		PB-200C-3		PB-200D-3
CYCLE COMPLETE	EL-200A-4	EL-200A-5	EL-200B-4	EL-200B-5	EL-200C-4	EL-200C-5	EL-200D-4	EL-200D-5
DOOR LOCK SELECTOR SWITCH	EOV-200A	HS-200A	EOV-200B	HS-200B	EOV-200C	HS-200C	EOV-200D	HS-200D

* PUMPS INCLUDE A SELF CONTAINED AIR COOLED EXCHANGER AND AN INTEGRAL MOISTER SEPARATOR.

** PUMPS SHALL BE CAPABLE OF EVACUATING AN INERTING VESSEL SYSTEM FROM (1) ATMOSPHERE TO 28 IN. Hg VACUUM IN APPROX. (1) MINUTE.

* INTERLOCK P-200A & C WITH P-300 MUNITIONS DRAIN PUMP

APPROVED FOR DESIGN

SYM	ZONE	REVISIONS	DATE	APPROVED
2		GENERAL REVISIONS		
1		GENERAL REVISIONS		
0		APPROVED FOR DESIGN		
D		FOR APPROVAL		

BATTELLE COLUMBUS LABORATORIES COLUMBUS, OH

CATALYTIC, INC. 1500 MARKET STREET PHILADELPHIA, PA 19102

U.S. ARMY TOXIC AND HAZARDOUS MATERIALS AGENCY ABERDEEN PROVING GROUNDS, MD

DRAWN BY: R. BOSSHARDT DATE 10-7-82

CHECKED BY: BCL

CATALYTIC APPR:

BCL APPROVAL: M. BALACHANDRAN

PBA APPROVAL: N/A

USATHAMA APPR: R. ROUX

PINE BLUFF ARSENAL
PINE BLUFF, ARKANSAS
CONTRACT DAAK 11—81—C—0080

POLLUTION ABATEMENT FACILITY FOR DISPOSAL OF CHEMICAL AGENT BZ INVENTORY
MUNITIONS DEMIL. BUILDING # 1500
ENGINEERING FLOW DIAGRAM
MUNITION INERTING SYSTEM

SIZE A | DRAWING NO. 200-D-01 | REV. 2

JOB NO. 43840 | SHEET 1 OF 1

D-2c. Tank Management Practices [270.16].

As shown on the materials flow diagram (Figures D-2 and D-3), the four inerting vessels will process either 12 M43 or 20 M44 munitions/day. While the operation of the four inerting vessels will be controlled by a single control system, each vessel will be equipped with an identical set of sensors and valves as shown on the piping and instrument drawing (Figure D-4). Once the operators manually load a munition into an inerting vessel and seal the door, this control system will step the vessel and its contents through the following sequence:

- The valve on the vacuum line will be opened to evacuate the vessel to less than 2 psia.

- When the proper vacuum is sensed on the pressure transmitter, a 10 minute hold period will begin.

- The valve on the fill line will open to fill the vessel with inerting solution until the level sensor indicates that the liquid level is at least one inch above the top of the munition.

- When this level is sensed, the fill valve will close to prevent overfilling the vessel.

- The vacuum valve will close and the valve on the pressurized air line will open to allow the vessel to achieve a pressure of approximately 15 psig preset on the pressure regulator.

- When the desired pressure is sensed, a 5-minute soak period will begin.

- The valve on the vent line will open to relieve the pressure; then the valve on the drain line will open to empty the vessel of inerting solution.

- The casing drain pump will start in order to remove excess solution from the munition casing and/or adapter cradle.

Each sequence of the inerting cycle will have a specified time within which it has to be completed. Failure to achieve the desired pressure or level condition within these time periods will create an alarm condition requiring operator intervention.

To ensure that the tank design pressure is not exceeded, a rupture disk rated at 100 psig will be attached directly to each vessel. The rupture disk and the plumbing will be 4 inches in diameter, and be large enough to safely convey any released gasses and liquids into the sump area.

D-2d. Inspections, Closure, and Special Requirements

Descriptions of compliance with inspection and closure requirements for tanks, as specified by 40CFR 264.194 and 264.197, respectively, in Subpart J - Tanks, are provided in Sections F-2 (Inspection Requirements) and I-1 (Closure Plans), respectively.

Special requirements for ignitable or reactive wastes in tanks, as specified by 40CFR 264.198 in Subpart J - Tanks, are not applicable because munitions are treated and desensitized immediately after placement in tanks, and no other wastes are placed in tanks.

Special requirements for incompatible wastes, as specified by 40CFR 264.199 in Subpart J - Tanks, are not applicable because none of the wastes is incompatible.

D-3. WASTE PILES does not apply to this Permit Application.

D-4. SURFACE IMPOUNDMENTS does not apply to this Permit Application.

D-5. INCINERATORS

D-5a. Justification for Exemption [270.19 (a)].

Although the M43 and M44 munitions are classified as hazardous wastes because of their reactivity (Class B explosives, 40CFR 261.23(a)(8)), they do contain very small quantities of heavy metal compounds (lead, antimony, and barium) listed in 40CFR 261 Appendix VIII. While these metals cannot be destroyed by the incineration, the fabric filter dust collection system installed on the incinerators has a sufficiently high collection efficiency that the quantities released into the atmosphere are insignificant and pose no threat to human health or the environment. It is therefore requested that the permitted incinerators be exempted as provided by 40CFR 264.340(c), from the performance, operating, monitoring and inspection requirements of 40CFR 264 Subpart O.

As shown in Table C-3, Section C-1, the fuzes contained in the munitions contain very small amounts of lead, antimony and barium compounds. In addition, parts of the munitions may have been painted with a lead base paint. The exact composition and dry film thickness of the paint used is not known, but conservative assumptions have been made in estimating the quantity of lead contained in the paint. A summary of the heavy metal contents of the munitions is shown in Table D-2 and detailed calculations are given in Appendix A to Section D. The facility is designed to process 12 M43 or 24 M44 munitions per day. Using the processing rate of M43s as

the worst case, and assuming that all of the lead is suspended in the flue gas and only 95 percent is removed by the baghouse, an average emission rate of lead over a week was estimated to be 0.0088 g/sec (see Table D-3). The emission rates of antimony and barium were found to be much lower.

Atmospheric dispersion calculations had previously been made based upon emissions measured during a test burn of smoke grenades which have a filling similar to the BZ-pyromix, except that a dye is incorporated into the mix instead of the BZ.

The dispersion model used was the single source CRSTER model. It was run using the hourly meteorological data from Little Rock Airport for 1964, the stack parameters given in Table D-2, and 180 receptors located in five rings located between 0.16 and 3.00 km from the source.

TABLE D-2. STACK PARAMETERS USED IN MODELING THE BZ DEMILITARIZATION FACILITY

Height	131.2 ft (40 m)
Diameter	2.16 ft (0.66 m)
Volumetric Flow	10,170 acfm (4.8 m^3/sec)
Exit Velocity	45.9 ft/sec (14.0 m/sec)
Exit Temperature	392 F (200 C)

The grenades did not have as much painted surface and did have different fuses than used in the BZ munitions. The emission rate found in the test and used in the calculations was 1.5×10^{-4} g/sec. Using that emission rate, a maximum 24 hour average ambient concentration of 2.3×10^{-4} ug/m3 was calculated. Factoring this concentration to the estimated

emission rate of 0.0088 g/sec as shown in Table D-4, produced an ambient concentration of 0.0182 ug/m^3. This value is considerably below the National Ambient Air Quality Standard (NAAQS) of 1.5 ug/m^3 (90 day average). No ambient air quality standards have been set for antimony and barium; however, the industrial exposure limits for these metals are higher than those for lead, so it can be assumed that they will be less of a human health problem than lead. Since the emission rates of these metals are much lower than lead, they are not expected to cause a problem.

Since the NAAQS for lead was set to protect human health and welfare, this analysis meets the requirements of 40CFR 264.340(c) for granting the exemption sought.

D-5b. Trial Burn

The Applicant does not propose to conduct a trial burn.

Table D-3. Heavy Metals Content of Munitions

M43 Cluster Bomb		
Painted surface	15,000 sq in	
Lead in paint		2.69 lb*
Lead in fuzes		1.19 lb
Total lead		3.88 lb
Total barium		3.3×10^{-4} lb
Total antimony		2.1×10^{-4} lb
M44 Generator Cluster		
Painted surface	10,400 sq in	
Lead in paint		1.87 lb
Lead in fuzes		0.637 lb
Total lead		1.93 lb

*"Worst case" assumption

Table D-4. Emission Rates for Heavy Metals

Munitions processed	12	/day
Total lead throughput	46.6	lb/day
Uncontrolled lead emission	46.6	lb/day
Controlled lead emissions	2.32	lb/day
Average lead emission rate	0.0122	g/sec
Average lead emission rate - 5 day wk.	0.0087	g/sec
Average antimony emission rate - 5 day wk.	7.4×10^{-7}	g/sec
Average barium emission rate - 5 day wk.	4.8×10^{-7}	g/sec

Table D-5. Estimated Maximum Ambient Concentrations

Metal	Basis of Estimate	Emission Rate g/sec	Annual Average Ambient Conc. ug/m3
Lead	test	1.5×10^{-4}	2.3×10^{-4}
Lead	calculated	8.7×10^{-3}	1.35×10^{-2}
Antimony	calculated	7.4×10^{-7}	8.2×10^{-10}
Barium	calculated	4.8×10^{-7}	5.4×10^{-10}

APPENDIX A

TO

SECTION D

COMPUTATION OF LEAD, BARIUM, AND ANTIMONY

IN WASTE FED TO INCINERATOR

Although the quantity of barium and antimony fed to the incinerator could be accurately calculated based on available data, several assumptions were required to calculate the amount of lead. In making these assumptions, a conservative approach was used; i.e., assumptions were made that would likely result in the estimated quantity being greater than actual. The assumptions were as follow:

Required Assumptions

1. Painted Surfaces:
   a. Red lead used as pigment and in both the primer and top coat
   b. Total coating thickness 3 mils
   c. Pigment constitutes 20 percent by volume of the coating
   d. The suspension bar used for the M44 bomb cluster was 9 inches wide.
2. Fuzes:
   a. Lead foil used at both ends of both the M150A2 and M220 fuzes with thickness of 4 mils and diameter of 5/8 inch
   b. Delay mix and first fire mix pellets fabricated with no voidage, and length of all pellets were equal. Silicon used had a specific gravity of 2.4.

Raw and Derived Data Used

Number of fuzes:

M150A2: 515-M43 bomb clusters each with 57-M 138 bomblets each with an M150A2 fuze: 29,355 fuzes

M220: 973-M44 generator clusters each with 3-M16 generators each with an M220 fuze: 2,919 fuzes

Atomic or molecular weights:

Antimony sulfide	Sb_2S_3	339.70
Antimony	Sb	121.76
Barium nitrate	$Ba(NO_3)_2$	261.38
Barium	Ba	137.36
Lead styphnate	$PbO_2C_6H(NO_2)_3$	450.30
Red lead	Pb_3O_4	685.63
Lead	Pb	207.21

Specific gravities and densities:

	Sp. Gr.	Density, lb/cu in
Red lead	9.1	0.3286
Silicon	2.4	
Titanium	4.5	
Delay mix: calculated assuming no voidage	7.11	0.257
M150A2 first fire mix: calculated	4.66	0.168

assuming no voidage			
M220 first fire mix:	calculated	4.45	0.161
assuming no voidage			
Pure lead		11.34	0.41

Volumes:

Delay mix plus first fire mix in both M150A2 and M220 fuzes:

5/16 in diameter by 1.898 in -- 0.1456 cu in

Delay mix: (5/11) (0.1456 cu in) = 0.0662 cu in

First fire mix: (6/11) (0.1456 cu in) = 0.0794 cu in

(Fuzes contain 5 parts delay mix and 6 parts first fire mix)

Lead foil: 10/16 in diameter x 4 mils = 0.001227 cu in

Compositions (by weight)

Delay mix (both fuzes): 90 percent red lead, 10 percent silicon

M150A2 fuze first fire mix: 50 percent red lead, 25 percent silicon, 25 percent titanium

M220 fuze first fire mix: 55 percent red lead, 33 percent silicon, 12 percent titanium

M150A2 fuze primer: 53 percent lead styphnate, 10 percent antimony sulfide, 22 percent barium nitrate, 10 percent powdered aluminum, 5 percent tetracene binder

M220 fuze primer: Diazodinitrophenol

Weights per fuze:

Delay mix (both fuzes): not available; calculated as volume times

density

First fire mix (both fuzes): not available; calculated as volume times density

Foil: not available; calculated as volume times density.

M150A2 fuze primer: 23 mg each fuze

Painted Surfaces:

Component	Dimensions	Number	Sq. in., millions
M43 Bomb Cluster:			
M43	65.75" x 16.15" Dia	515	1.928
M138	19.47" x 3" Dia	515 x 57	5.801
M7	3.88" x 2.75" Dia	not painted	0
Subtotal			7.729
M44 Generator Cluster:			
Suspension bar	9" x 60" x 2 sides	973 x 2	2.102
M44		See M16	0
M16	14.87" x 11.87" Dia	973 x 3	2.265
M6	4.75" x 2.5" Dia	973 x 3 x 42	5.777
Subtotal			10.143
Total painted surface:			17.872

Results

Results of the computations for lead were as follow:

Source of lead	Total quantity in inventory, pounds
M43 bomb cluster:	
Painted surfaces	1383.3
Fuzes (M150A2)	
Primer	0.4
Delay mix	407.5
First fire mix	177.5
Lead foil	29.5
Subtotal	1998.2
M44 generator cluster:	
Painted surfaces	1815.3
Fuzes (M220)	
Primer	0
Delay mix	40.5
First fire mix	18.6
Lead foil	2.9
Subtotal	1877.3
Total lead	3875.5

The source of both barium and antimony was the M150A2 fuze primer used in the M43 bomb cluster. Quantities in inventory were 0.17 and 0.11 pounds of barium and antimony, respectively.

SECTION E

E. GROUNDWATER MONITORING

Groundwater Monitoring does not apply to this Permit Application.

SECTION F

F. PROCEDURES TO PREVENT HAZARDS

F-1. Security [270.14 (b)(4); 264.14]. The BZ Demilitarization Facility is located on the premises of Pine Bluff Arsenal. With the exception of the Pine Bluff Arsenal eastern boundary, which is along the Arkansas River bank, the entire boundary is fenced. The entire boundary is patrolled by armed security personnel who are in constant radio contact with the Pine Bluff Arsenal central security office. Access to Pine Bluff Arsenal is controlled by security personnel through a limited number of entry gates. Other normal Pine Bluff Arsenal security measures consist of on-premise security control, patrol, and communication. Security at the BZ Demilitarization Facility is in addition to those items mentioned in this paragraph.

F-1a. Security Procedures and Equipment [264.14 (a)]. Pine Bluff Arsenal will prevent unknowing entry into the BZ Demilitarization Facility and minimize the possibility for the unauthorized entry of persons or livestock onto the active portion of the BZ Demilitarization Facility by use of the following procedures and equipment:

24-Hour Surveillance [264.14 (b)(1)]. Armed security personnel will provide constant and uninterrupted surveillance of the BZ Demilitarization Facility, both visually and electronically, from the Entry Control Facility (ECF) and by regular patrol within the BZ Demilitarization Facility.

Barrier [264.14 (b)(2)(i)]. Two six foot high chain link fences will completely surround the BZ Demilitarization Facility on the facility perimeter. The two fences are thirty feet apart and parallel to each other

at all points. Each fence is also topped with six strands of barbed wire. There will be a "double" entry gate system at the Entry Control Facility. That is, all movement into and out of the BZ Demilitarization Facility must pass through two gates. Each gate can be closed by remote control from the Entry Control Facility.

Entry control [264.14 (b)(2)(ii)]. The Entry Control Facility is located at the entrance to the BZ Demilitarization Facility. It is manned by armed guards and its purpose is to monitor and regulate the flow of personnel, vehicles, and material into and out of the facility. The Entry Control Facility will be manned on a 24 hour per day basis and will contain communications equipment. The Entry Control Facility is also in telephone and radio communication with the BZ Demilitarization Facility and the Pine Bluff Arsenal central security office.

Warning signs. [264.14 (c)]. Signs bearing the legend "DANGER -- UNAUTHORIZED PERSONNEL KEEP OUT" written in English and legible from 25 feet will be posted along the BZ Demilitarization Facility perimeter and at the entrance to the BZ Demilitarization Facility in sufficient numbers to be seen from any approach to the facility. The signs will be placed in accordance with the dimensions and details shown on Sheet C-1 of the Permit Application Plans.

F-1b. Waiver. [264.14 (a)]. No request for waiver of the security requirements of 40CFR 270.14 (b)(4) will be made.

F-2. Inspection Requirements [270.14(b)(5); 264.15].

F-2a. General Inspection Requirements [264.15(a) and (b); 264.33].

Pine Bluff Arsenal will inspect the BZ Demilitarization Facility according to a prescribed inspection schedule designed to detect equipment deterioration and prevent possible equipment malfunctioning that would cause a release of hazardous materials to the environment or pose a threat to human health. The inspection schedule document will be located in the Administration Building at the BZ Demilitarization Facility. At a minimum, the inspection program will include inspections of the equipment items listed in Table F-1. The inspection frequencies are also shown in Table F-1.

An example of an Inspection Log Sheet, to be used to record results of inspection, is included as Table F-2.

F-2a(1). Types of Problems [264.15(b)(3)].

The types of problems to look for during the inspection are identified in Table F-1 in the "Reason for Inspection" column.

F-2a(2). Frequency of Inspection [264.15(b)(4)].

The frequency of inspection is given in Table F-1 in the "Frequency" column. The frequency of inspection is based on the rate of possible deterioration of equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or operator error goes undetected between inspections. The inspections will be performed sufficiently often to allow identification of problems in time to correct them before they harm human health or the environment. The Facility and Equipment Layout and the Incineration and Air Pollution Control Flow Diagram are illustrated on Appendix A and B to Section B.

TABLE F-1. INSPECTION SCHEDULE

Item [264.15(b)(1)]	Frequency* [264.15(b)(4)]	Reason for Inspection [264.15(b)(3)]	Function of Item
		Baghouse	
High Temperature Sensor	S	Calibration	On high temperature conditions, activates bypass controls to cause flow to bypass baghouse to preclude burn-out.
Dust Collector Hopper	M	Check for overflow	Collects the dust that has been shaken off the bags.
Bypass Controls	M	Proper operation	Diverts flow around the baghouse to protect bags from burning or blinding.
Bags	M	Check for integrity	Remove particulates from flue gases.
		Heat Exchanger	
Temperature Sensor	S	Calibration	Maintains proper exhaust gas temperature by controlling flow of cooling air.
Exchanger Fans	M	Check for operability	Blows cooling air over heat exchanger shell.
		ID Fans (Main and Spare)	
Fans	M	Check for operability	Provides draft in furnace systems.
Dampers	M	Check for operability	Controls draft in furnace systems.
Controls	M	Proper operation	Controls fans and dampers.

* D - daily; W - weekly; M - monthly; S - semi-annual.

TABLE F-1. (Continued)

Item [264.15(b)(1)]	Frequency* [264.15(b)(4)]	Reason for Inspection [264.15(b)(3)]	Function of Item
		FURNACES	
		Deactivation Furnace	
Temperature Controls	S	Check for calibration, dirty contacts, bad thermocouples	Maintains retort operating temperature.
Flame Safety Controls	S	Dirty contacts, U.V. detector lens, shut-off valves, bad thermocouples.	Shuts off fuel flow to furnace if flame is lost or if fuel pressure is too high or too low.
Retort Drive	S	Time for rotation	Controls residence time of munitions in the furnace.
Waste Feed Conveyor	S	Conveyor speed	Controls rate of munitions feed into furnace.
Pressure Controls	S	Check for calibration, dirty contacts, bad sensors.	Maintains desired draft in the furnace.
		Metal Parts Furnace with Primary Fume Burner	
Temperature Controls	S	Check for calibration, dirty contacts, bad thermocouples	Maintains operating temperature in main chamber of the metal parts furnace and in the primary fume chamber.

TABLE F-1. (Continued)

Item [264.15(b)(1)]	Frequency* [264.15(b)(4)]	Reason for Inspection [264.15(b)(3)]	Function of Item
Flame Safety Controls	S	Check for dirty contacts, U.V. detector lens, shut-off valves, bad thermocouples	Shuts off fuel flow to furnace if flame is lost or if fuel pressure is too high or too low.
Waste Feed Car and Conveyors	S	Check for integrity and operability	Transport containers of waste to the metal parts furnace.
Pressure Controls	S	Check for calibration, dirty contacts, bad sensors	Maintains desired air pressure within the furnaces.
Combustion Air Blowers	S	Check for integrity, rotational speed, shaft alignment, coupling deterioration.	Provides controlled amounts of combustion air to main chamber and primary fume chamber.
		SAFETY EQUIPMENT	
		Fire Protection System	
Alarms	S	Check for operability	Indicates activation of a manual or automatic fire protection system.
Extinguishers (manual)	S	Check for condition and gauge pressure	Provides for hand-held fire fighting in areas not covered by automatic fire protection systems.
Water Tank	M	Check for tank integrity, water level, and water pressure	Provides fire protection water for MIN and MDA.

TABLE F-1. (Continued)

Item [264.15(b)(1)]	Frequency* [264.15(b)(4)]	Reason for Inspection [264.15(b)(3)]	Function of Item
Halon System for Control Room	M	Check for pressure	Provides fire protection in control room.
Smoke Detectors	S	Check for proper operation	Activates automatic fire protection systems on detection of smoke.
Emergency Generator	M	Check the following: fuel level, starting up, switching, proper operation and power output, and shutting down	Provides emergency electric power to the plant to allow a safe shutdown on loss of regular power.
Emergency Fuel System	S	Check the following: fuel level, fuel pressure in lines, burner operation	Provides alternative fuel (propane) to plant for temporary operation to effect orderly shutdown on loss of main fuel (natural gas).
		Miscellaneous Equipment Systems	
Air Compressors	M	Check the following: reservoir integrity, pressure in reservoir, switching between compressors, operability of both compressors, air quality	Provides compressed air for instrumentation, pumping, and for housekeeping.

TABLE F-1. (Continued)

Item [264.15(b)(1)]	Frequency* [264.15(b)(4)]	Reason for Inspection [264.15(b)(3)]	Function of Item
Control Room Alarm Panels	M	Check integrity of audible alarm	Indicates equipment malfunctions to control room operator.
	M	Check integrity of visual alarms	
Overall Plant Interlocks and Main Programmable Controller	S	Check the following: instrumentation calibration, dirty contacts, bad sensors, interlock operation.	Master interlock system to prevent plant operation or to effect safe plant shutdown under abnormal conditions.
		Spill Control System	
Hardstands, loading and and unloading areas	D	Check for condition of concrete, sumps, and check for spills	Unloading area for drums of CMC. Contains possible spills. (Note: Also used for loading/unloading of munitions.)
Hardstand Valves	W	Proper operation	Prevents spill materials from exiting hardstand sumps.
Spill Removal Truck	M	Check integrity of tank on truck, operability of pump	Transports spilled material to munition demilitarization building for thermal processing.

TABLE F-1. (Continued)

Item [264.15(b)(1)]	Frequency* [264.15(b)(4)]	Reason for Inspection [264.15(b)(3)]	Function of Item
Storage Igloo (MHA)	W	Check for corrosion of containers, deterioration of concrete floors, walls, ceiling	Provides temporary storage of drums of CMC. (Note: Also used for munitions storage.)
Communication Systems (intercom, closed-circuit TV)	M	Proper operation	Allows communication between MDB operators and control room operators.
		Munition Inerting System	
Inerting Vessels (Autoclaves) Piping Joints, Fillings, Pipes, Conveyors, Sumps, Pumps, Filters, Gratings, Seams, Tank Supporting Members	M	Check the following: corrosion, erosion, leaks, evidence of deterioration of system integrity	Desensitizes the BZ-pyromix munitions.
Inerting System Controls and Instrumentation	M	Check for proper operation during normal plant operation (vacuum, pressure, cycle time)	Ensures that all munitions are subjected to the same predictable and repeatable inerting process.
	S	Check for dirty contacts, bad sensors, calibration of instruments, programmable controller software, system interlocks	Ensures that all munitions are subjected to the same predictable and repeatable inerting process.

TABLE F-1. (Continued)

Item [264.15(b)(1)]	Frequency* [264.15(b)(4)]	Reason for Inspection [264.15(b)(3)]	Function of Item
Inerting System Panel in Control Room	M	Check audio alarm	Indicates any improper functioning of inerting system and indicates status of inerting cycle at any given time.
	M	Check visual alarms and indicators	Indicates any improper functioning of inerting system and indicates status of inerting cycle at any given time.

TABLE F-2. EXAMPLE OF INSPECTION LOG SHEET

Deactivation Furnace System Inspection Log Sheet

Inspector's Name/Title _____

Date of Inspection (month/day/year) _____

Time of Inspection (military time) _____

Item	Reason for Inspection	Status: Acceptable (A) or Unacceptable (U)	Observations	Date and Nature of Repairs and/or Remedial Action
Retort Drive	Check for rotational speed (time for rotation)			

F-2b. Specific Process Inspection Requirements [270.14 (b)(5)].

F-2b (1). Waste Holding Facility (Storage Igloo). [264.174].

Pine Bluff Arsenal will inspect the storage igloo and waste containers daily during operations for leaking containers, evidence of leakage, rust corrosion, other deterioration, structural defects, or trends which could indicate possible malfunctions.

Pine Bluff Arsenal will remedy any deterioration or malfunction of equipment or structures revealed by inspection on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action will be taken immediately.

F-2b(2). Tank Condition Assessment. [264.194].

Deterioration of tank condition due to corrosion or erosion is not considered to be a potential problem. To prevent corrosive attack by the chlorate in the inerting solution, the tanks are constructed of SA-240-304 stainless steel alloy. The 1974 NACE Corrosion Data Survey indicates that the corrosion of this alloy by the inerting solution would be less than 2 mil per year. Since the operating life of the tanks will be only about 8 months, corrosion will not be a problem. However, to provide a safety margin for unanticipated attrition of the tanks, an extra 1/16-inch of material will be added above the design requirements of 40CFR 264.191.

The treatment tanks are emptied automatically once during each inerting cycle. Interior inspection required by 40CFR 264.194(b) can be accomplished by manually overriding the automatic control system to cause the tanks to

remain empty until interior inspection is complete. Since the inerting solution removed from the tanks would be returned to its reservoir as usual, there would be no need of special treatment of any removed liquid. The tanks could then be inspected for cracks, leaks, corrosion, erosion, or wall thinning.

Inspection Log. [264.15 (d)].

The inspection log (as shown in Table F-2) will be kept in the administration building of the BZ Demilitarization Facility. It will be the written record of the items contained in the inspection schedule. The inspection log will record, at a minimum, the date and time of inspection, inspector's name, a notation of the observation made, and the date and nature of any repairs or other remedial actions. The records will be kept for a minimum of three years from the date of inspection.

F-3. WAIVER OF PREPAREDNESS AND PREVENTION REQUIREMENTS

No waiver is requested.

F-4. PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT [270.14 (b)(8)].

F-4a. Unloading Operations [270.14 (b)(8)(i)].

The areas of the BZ Demilitarization Facility where containers of BZ-containing materials are transferred from cargo vehicles will be provided with "hardstands" to contain spills. Each hardstand will consist of a concrete slab with provisions for containing any spilled material (see Section F-4(b) below). When the cargo vehicle arrives at the unloading area, it will be properly spotted and the front and back of one rear wheel of the vehicle will be chocked. Prior to unloading, the supervisor will

ascertain that the cargo has arrived in good order, secure and with no evidence of leaking.

Drums of BZ material are banded and palletized to minimize the potential for hazards in unloading. Forklift trucks operated by trained personnel will be used to unload pallets of containers from the vehicle to the hardstand at the igloo. A forklift fitted with a drum-holding attachment will then be used to transfer containers from pallets to the base tray/pans on the conveyor.

The munitions will be transported in cases which have integral skids to enable proper positioning of the forklift tines. Only one crate will be unloaded at a time.

F-4b. Runoff [270.14 (b)(8)(ii)].

Runoff from hazardous waste handling areas to other areas of the facility or the environment will be prevented by facility design features, such as locating operations under roof to eliminate the potential for precipitation runoff to become contaminated from waste handling incidents. The hardstands where the BZ materials will be unloaded will be constructed of concrete with an open, grate-covered trench running along the periphery. Each hardstand will have a sump in one corner. If a BZ material is spilled, the hardstand area will be decontaminated with a dilute caustic detergent wash that will be collected in the sump for subsequent disposal. The concrete will then be washed with water until analyses of the washwater collected in the sump indicate that decontamination is complete. The container storage facility at the Munitions Holding Area will have perimeter curbing to prevent runoff which has not been analyzed and demonstrated to be uncontaminated.

F-4c. Water Supplies [270.14 (b)(8)(iii)].

Contamination of groundwater and surface water will be prevented during normal operations and during upset conditions by the nature and design of the facilities and by operating and emergency procedures. All hazardous wastes will be incinerated; there will be no discharges of hazardous waste to the ground or to water. Areas where containers are handled have impervious bases and systems to contain any material that is accidentally spilled. Emergency procedures described in Section G will ensure timely response and cleanup of any release of hazardous waste.

F-4d. Equipment and Power Failure [270.14 (b)(8)(iv)].

In the event of a disruption of normal electrical power service, an 850 kw diesel generator will supply emergency electrical power for critical equipment items (e.g., fans, blowers, and furnaces), alarms, and lighting. When a power outage occurs, the diesel generator will be automatically started and then brought up to full power in about 30 seconds. Motor control centers to which items requiring emergency power are connected will be energized sequentially to prevent overloading of the generator.

To ensure that equipment failure does not allow a release of hazardous material or present a hazard to personnel or property, the control system for the BZ Demilitarization Facility will incorporate intersystem and intrasystem interlocks on critical equipment items. The intersystem interlocks are a communication system in which one major system or equipment item signals another its operational status. There will be two types of signals: (1) an operational signal that instructs a system to proceed with the sequence of operations, and (2) an emergency signal that indicates an upset condition exists and activates an alarm in the control room. For example, if the ID fan shows a negative signal (indicating failure of the

fan), an emergency signal will be sent to activate an alarm at the control room and to turn off the deactivation furnace feed conveyor and burner. In addition to the intersystem interlocks, intrasystem interlocks will be provided for the deactivation furnace feed conveyor, the deactivation furnace, the metal parts furnaces and primary fume burners, the liquid incinerator, the afterburner, the air pollution control system, the HVAC system, and the emergency power system.

F-4e. Personnel Protection Equipment [270.14 (b)(8)(v)].

The design and planning of the BZ Demilitarization Facility has included the prevention of undue exposure of personnel to hazardous materials. An assessment has been made of the appropriate level of protective clothing for each work area. Protective clothing is of the same standard type specified by the Army for handling chemical agent materials. The protective clothing that will normally be worn at the facility includes Level B, Level C, and modified Level C. Level B clothing will consist of unimpregnated coveralls, butyl apron extending below the top of boots, butyl boots (M3 toxicological agent protective), butyl or neoprene gloves, unimpregnated undershirt, drawers, and socks, and worn M17 mask and hood (M6A2 toxicological protective). Level C protection will consist of unimpregnated coveralls, undershirt, drawers and socks and an M17 mask carried in a slung position. Modified Level C protection would use coveralls and would require that the M17 mask be worn. Level D will consist of street clothing with laboratory coat or coveralls and M16 mask readily available to the work station. The levels of protective clothing that will be worn in the various areas of the facility are presented in Table F-2. All coveralls are treated with a fire retardant material.

TABLE F-3. LEVELS OF WORKER PROTECTION FOR FACILITY AREAS

Area	Level of Personal Protection
Munition Holding	
First daily entry	Level B
Subsequent entry	Level C
Munition Unpack	Level C, Modified
Munition Inerting	Level B
Munition Disassembly	Level B
Drum Preparation	Level B (Inside glovebox) Level C (Outside glovebox)
Metal Parts Furnace	Level C, Modified (Toxic areas) Level C (Non-toxic areas)
Liquid Incinerator	Level B
Deactivation Furnace and Discharge Conveyor	Level C, Modified (Cold Furnace) Heat Protective Suit and Airpack (Hot Furnace)
Air Pollution Control System	Level C
Chemical Distribution System/Laundry Pickup Room	Level C
Maintenance	Level C
Analytical Laboratory	Level D
Other Areas	Level C or D

F-5. PREVENTION OF REACTION OF IGNITABLE, REACTIVE, AND INCOMPATIBLE WASTES

As described in Section C, two types of materials to be processed in this facility have been identified as being either ignitable or reactive; the BZ pyromix/starter mix in the munitions (reactive) and the drummed CMC solution (ignitable) presently in storage. None of these wastes is incompatible. The process and operations are designed with precautions to prevent accidental ignition or reaction of these wastes during removal from the storage igloos through the incineration process. Most of these precautions are related to handling operations. Detailed descriptions of all precautions are given below.

F-5a. Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Waste [270.14 (b)(9); 264.17 (a)].

Because both of the identified hazardous wastes are ignitable, cutting and welding will not be permitted within the process areas of the facility while wastes are present in those areas. The entire munitions demilitarization building will be a designated nonsmoking area marked by conspicuously placed signs. During munition processing, all equipment will be grounded to prevent the transfer of electrostatic charges to the munitions. During critical operations, grounding wires will be attached to the munition bodies to prevent any charge buildup. The facility will be protected from fires and/or explosions potentially caused by functioning munitions, electrical shorts, fuel leaks, overheated equipment, or miscellaneous equipment and operator failures, by a fire protection system designed to meet the special needs of each of the plant areas. Details of this system are presented in Table F-2.

TABLE F-4

MUNITION DEMILITARIZATION BUILDING AREAS REQUIRING FIRE PROTECTION

MDB Area	Operations	Fire Hazard	Ignition Source	Fire Protection System
MUA - Munition Unpack Area	• Uncrating M43 and M44 munitions • Transporting munitions and dunnage	Wood dunnage	None anticipated	Ordinary Hazard Sprinklers
MIN - Munition Inerting Area	• Removal of Upper Cluster Casing of M43 munitions--exposing the M138s • Inerting (desensitizing M43 and M44 munitions) • Transporting munitions	Munition	Functioning munition fuze	Fine-spray nozzles
MDA - Munition Disassembly Area	• Safing and removal of M138 munitions from the M43 Cluster • Disassembly of M44 munitions to M16 munitions followed by removal of fuzes and exposure of the M6 canisters • Removal of M6 canisters from the opened M16 pails • Transporting munitions/scrap	Munition	Functioning munition fuze	Fine-spray nozzles, Atomizing nozzles, and Coarse-spray nozzles
DPA - Drum Preparation Area	• Downloading of drums containing BZ contaminated material (Note: Downloading will be performed in a glove box)	Caustic methyl cellosolve (CMC), wood	Sparks from downloading operation	Ordinary Hazard Sprinklers
CR - Control Room	• Provide overall control and command of facility operations	Electrical Equipment	Overload, short circuit	Automatic Halon• protection system
TCA - Toxic Change Area	• Personnel clothing decon and change area	Clothing storage	None anticipated	Hand-held extinguishers
Support Area, EQR - Equipment Rooms	• Houses electrical equipment and heating, air conditioning and ventilation units	Electrical Equipment	Overload, short circuit	Hand-held extinguishers
CDS - Central Decon System	• Acetic acid dilution and distribution system	Electrical Equipment	Overload, short circuit	Hand-held extinguishers
LIN - Liquid Incinerator	• Thermal processing of liquid (non-combustible) process waste	Electrical Equipment	Overload, short circuit	Hand-held extinguishers
MPF, DFS, LIN	• Thermal processing of munitions, liquid and solid waste	Natural Gas Leak	Furnace	Natural gas leak detectors

F-5b. General Precautions for Handling Ignitable or Reactive Waste [270.14 (b)(9); 264.17 (b)].

Ignition of the munitions or CMC wastes is the only reaction that could occur. This section discusses precautions taken during handling to prevent ignition of the reactive wastes being processed in this facility. Should a munition accidentally function during in-plant processing, the fire protection system is designed to prevent ignition of the flammable vapors that would be produced (Table F-2).

Precautions Employed in Handling Munitions. The BZ-pyromix as loaded in the munitions has been demonstrated to be sensitive to ignition by impact, friction, and electrostatic spark. In addition, both M138s and M16s are equipped with fuzes designed to cause the munition to function (i.e., burn). In the M138, the percussion cap of an armed M150A2 fuze is fired by an impact in any direction (i.e., an "all ways" acting fuze). In the M16, a pull on the parachute lanyard will fire the percussion cap. Rough-handling tests have shown that the assembled M43 and M44 would probably survive a fall from any height encountered in the demilitarization process without igniting. Nevertheless, handling procedures have been incorporated into the transportation and plant operation procedures to prevent droppage and possible ignition of these munitions.

Transportation. Transportation of munitions from the storage igloo to the demilitarization plant will be carried out according to standing operating procedures established by the Army. These procedures contain the following precautions to prevent dropping or functioning of the munitions during transportation:

- Transportation of munitions will not be permitted during inclement weather when high winds or thunderstorm activity would pose a risk.
- All transportation vehicles will be inspected for mechanical defects prior to use.
- Munitions will not be loaded on the cargo truck until it has been leveled and secured.
- When loaded, all munitions will be secured to the truckbed.
- All transportation will be done in convoy with guard vehicles, flashing lights, and warning signs.
- All other traffic on delivery route will be stopped by armed guards.

When the convoy arrives at the demilitarization plant, a supervisor will inspect the load. After the supervisor ascertains that the shipment arrived in good order, the truck will be secured prior to unloading. A forklift truck will then be used to move the munitions from the truck to the Munitions Holding Area.

Munitions Unpacking. The munitions will be delivered from the Munitions Holding Area with a forklift truck and will enter the munitions demilitarization building through an airlock into the munitions unpack area. Here a bridge crane will be used to lift the munitions from the wooden shipping boxes to individual holders on a roller conveyor. This crane has a motor brake so the load will not fall if power is lost. From this point on in the facility, all movement of munitions will be accomplished with roller conveyors. These conveyors incorporate stops, interlocks and guard rails that prevent the munitions from falling.

Munitions Inerting. From the unpack area, the munitions will be conveyed through an airlock to the munitions inerting area. Here, the munitions will be placed on a transport car. M43s will be directed to a press station where the detonating cord, the hinge tube, and the upper adapter casing will be removed and tie-down straps secured around each group of M138s to hold them in place. The opened munitions then will be transferred to an autoclave-type inerting vessel. The M44s will be transported directly to these inerting vessels. At the press station a grounding wire will be attached to the munition to prevent static charge buildup.

The inerting process is designed to desensitize munitions so they can be safely disassembled and subsequently incinerated in a controlled manner. In the inerting process, BZ munitions will be sequentially subjected to a vacuum to remove entrapped air, submerged in an aqueous inerting solution, and then pressurized to promote penetration of the solution into the pyrotechnic fill of the munitions. It has been demonstrated that subjecting BZ munitions to such a cycle completely wets the pyromix fill and produces the desired desensitization. The inerting process cycle will be automatically controlled to assure complete wetting of the munitions. If any step of the inerting cycle schedule is not followed, the control system will warn the control room operator. At this point, the process will be stopped and corrective measures taken. The inerting process cycle then will be restarted at the beginning to expose the munitions to a complete inerting cycle thereby assuring proper inertion.

Munitions Disassembly. After the inerting cycle is completed, the inerted munitions will be transported by roller conveyor to the munitions disassembly area. Here the M44s will be partially disassembled into M16s.

Each M16 will be further disassembled by removing the parachute assembly. As the parachute is removed, the fuze lanyard will be cut and a safing wire installed to render the fuse inoperable. To prevent the munition from functioning during this operation, a limitation to the maximum distance the parachute assembly may be lifted prior to cutting the lanyard will be specified. The M16s then will be inspected for water penetration to confirm that inerting has occurred. Upon verification of inerting, the M6 canisters will be removed from the M16 generators and placed in a bucket conveyor for transport to the deactivation furnace for thermal destruction.

Disassembly of M43s will begin with removal of the tie-down straps installed prior to inerting. Before each M138 is removed from the M43 casing, a safing clip will be placed over the arming pin. The clip will retain this arming pin and maintain the fuse inoperable. After the clip is securely in place, the operator will lift the M138 out of the lower adapter casing while holding the clip in place by hand. A hand-actuated tool will then be used to secure ties around the clip to hold it in place. After the fuze is secured, excess inerting solution will be drained, the munitions will be placed in a plastic bag, and the bagged M138s will be transported by bucket conveyor to the deactivation furnace for incineration.

The bucket conveyor is equipped with an internal interlock to prevent feeding to the deactivation furnace when temperatures near the furnace are sufficiently high to potentially cause boil-off of the inerting solution in the munition.

Precautions Employed in Handling CMC Solutions. To prevent spillage of the flammable CMC solutions, the liquid residues contained in 55 gallon drums will be transported to the demilitarization plant using the same procedures as for the BZ munitions. The drums will enter the MDB

via the drum preparation area where they will be placed in a base tray/pan to prevent spillage during subsequent processing. As an additional safeguard, this area and all other processing areas will be enclosed by an 8 inch curb to contain spilled liquids. The drum and base tray will be placed in a glove box where, if an overpack drum was used, the lid will be removed. The top will be cut out of the 55 gallon drum which contains the waste using non-sparking tools. A temporary, combustible lid will then be placed on the drum or the overpack drum to prevent the spread of combustible vapors while the residue is conveyed to the metal parts furnace.

At the metal parts furnace, a charge car will use a powered stiff chain mechanism to transfer the drum and base tray into a furnace that has been cooled to at least 750° F. Cooling the furnace to this temperature prevents rapid volatilization of the combustible liquids. The furnace doors will be closed and the furnace temperature programmed to volatilize the liquids in a controlled manner. The furnace will operate at substoichiometric fuel air ratios to prevent ignition of the flammable vapors. The use of the temporary lid will prevent escape of volatiles from the drum until such excess O_2 levels in the furnace are reduced. In this manner all combustible liquids will be volatilized without being ignited. The fumes will then be incinerated by a primary fume burner.

F-5c. Management of Ignitable or Reactive Wastes in Containers [270.15 (c); 264.176].

When the munitions and residues of concern (the CMC solutions) enter the BZ Demilitarization Facility, they will be stored temporarily in the Munitions Holding Area, an earth-covered igloo, until they are processed. The Munitions Holding Area is located 50 feet from the inner security fence

and 80 feet from the facility property line (see scale plot plan on Sheet C-1 of the Permit Application Plans).

F-5d. Management of Incompatible Wastes in Containers [270.15 (d); 264.177].

None of the wastes to be processed or stored is incompatible.

F-5e. Management of Ignitable or Reactive Wastes in Tanks [270.16 (f);264.198].

The munitions will be placed in the inerting vessels (tanks) described in Section D-2. While in the tanks, the munitions will undergo an inerting (water soaking) process (Section D-2c) which causes the ignitable/reactive component of the munitions (the pyromix) to lose its hazardous capacity.

F-5f. Management of Incompatible Wastes in Tanks [270.16 (f); 264.199 (b)].

None of the wastes to be treated in the inerting vessels (tanks) is incompatible.

The following subsections do not apply to this Permit Application:
F-5g, F-5h, F-5i, F-5j.

SECTION G

G. CONTINGENCY PLAN [270.14 (b)(7); 264, Subpart D].

The information contained herein is submitted in accordance with the requirements for a Contingency Plan, as contained in 40 CFR Part 270.14(b)(7) Part 264, Subpart D. The purpose of the Contingency Plan is to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents associated with the BZ Demilitarization Facility at Pine Bluff Arsenal. The provisions of this Contingency Plan shall be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

The specific responsibilities of key Pine Bluff Arsenal personnel for addressing emergency situations involving uncontrolled chemical agent release are described in the Pine Bluff Arsenal Chemical Accident and Incident Control (CAIC) Plan. Because the chemical agent BZ is not a RCRA hazardous material, the CAIC Plan is attached as Appendix B to this section for information only.

G-1. General Information [264.52; 264.53].

This Contingency Plan is for the BZ Demilitarization Facility at Pine Bluff Arsenal, Pine Bluff, Arkansas. The Arsenal is located about eight miles northwest of Pine Bluff. The BZ Demilitarization Facility will be located in the northeastern section of Pine Bluff Arsenal and will be operated by the United States Army. The proposed facility will be used for

the destruction of the Army's existing stockpile of chemical warfare agent BZ (3-quinuclidinyl benzilate, an incapacitating agent), BZ-filled munitions, and BZ-contaminated residues.

The agent destruction method will be incineration. The facility's processes will consist of unpacking BZ munitions from storage and transport packing material, inerting (water soaking) the munitions to render them safer to handle, disassembling the munitions to their submunition components, and destroying the agent-containing submunitions in a rotary kiln furnace. A metal parts furnace system will be used for incinerating the packing material, metal fixtures from munition disassembly, and agent contaminated bulk residues. A liquids incinerator will destroy neat BZ dissolved in acetic acid liquids. The flue gases from all furnaces will be directed to a common afterburner. The Munitions Demilitarization Building is designed for total containment and will be capable of preventing any release of BZ agent or hazardous material into the environment.

Hazardous wastes associated with the BZ Demilitarization Facility include:

- BZ munitions (D001, D003)
- Caustic methyl cellosolve (CMC) mixture (D001)
- Decontaminating solution (D002)

A detailed description of these wastes is contained in Section C of this application.

G-2. Emergency Coordinators [264.52(d); 264.55].

Because the BZ Demilitarization Facility is a new facility, Emergency Coordinators have not been designated yet. In accordance with 264.52(d),

the names, addresses, and telephone numbers (office and telephone) of the Emergency Coordinators will be supplied to the Permitting Agency at the time of facility certification.

The primary Emergency Coordinator will be the Director of the BZ Facility. The alternate will be the Director of Facilities Engineering at Pine Bluff Arsenal. The primary and alternate Emergency Coordinators will be thoroughly familiar with all aspects of the facility's Contingency Plan, all operations and activities at the facility, the location and characteristics of wastes handled, the location of all records for the facility, and the facility layout. They will each have the authority to commit all resources necessary to implement this Contingency Plan.

The general responsibilities of the Emergency Coordinators in the event of an imminent or actual emergency situation are summarized below:

- Ensure facility alarms and communication systems are activated to notify facility personnel.
- For releases, fires, or explosions, identify the character, exact source, amount, and areal extent of any released materials.
- Assess possible hazards, both direct and indirect, to human health or the environment.
- Take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread at the facility.
- If facility operations are stopped in response to an emergency, monitor for leaks, pressure build-up, ruptures, etc., in facility equipment.
- After the emergency, provide for treating, storing, or disposing

of recovered waste and contaminated material.

- Ensure all emergency equipment is cleaned and fit for use before operations are resumed.

G-3. Criteria for Selection of Type and Severity of Incidents Leading to Implementation of Contingency Plan [264.52(a); 264.56(d)].

This Contingency Plan will be implemented in the event of a functioning of a BZ munition, a fire involving ignitable CMC, or the unconfined spillage of CMC or corrosive decontaminating solution.

G-4. Emergency Response Procedures

During any operations involving a chemical surety material at Pine Bluff Arsenal, the operations group must be in contact with, and directly coordinate with, the Operations Center (OC). The OC is located in Room 249, Prentiss Hall (Building 10-020) and contains maps and briefing boards to indicate on-post storage locations, travel routes, traffic control points, command post and hot line locations; communication equipment and meteorological instruments are also available.

In the event of a chemical accident/incident (CAI), the OC is fully staffed with personnel who have been trained in emergency procedures to control and minimize the hazardous effects that might result. During normal operations, there will always be one or two people manning the OC and maintaining contact with field operations. All pertinent activities are communicated to the person manning the OC and these activities are recorded in a log book. In the event of an accident/incident, the person manning the OC will be notified immediately, along with the emergency coordinator, of the event.

G-4a. Notification [264.56(a); 264.56(d)(1) & (d)(2)].

There are two locations where an emergency could occur: (1) inside the MDB or the MHA, or (2) outside, during transport of munitions or CMC. (Note: Functioning of the munition which results in release of agent BZ to the environment would immediately trigger Pine Bluff Arsenal's CAIC Plan).

If a fire occurred or a BZ munition functioned inside the MDB, the automatic alarm system in that building would immediately activate the facility's alarms. If a fire occurred inside the MHA, the forklift operators working in the building would notify the control room by two-way radio. Control room personnel would then immediately notify the Emergency Coordinator by phone or radio of the occurrence.

If a spill of CMC occurred or a munition functioned during transport, personnel transporting the item will notify the Emergency Coordinator by radio.

Coordination with the Arkansas Emergency Service Office or the National Response Center is not necessary, since the effects of any fire, explosion, or release of RCRA materials would be contained within and remedied by the Arsenal itself, and no evacuation of local populations would be required.

G-4b. Identification of Hazardous Materials [264.56(b)].

The Emergency Coordinator will identify the character, exact source, amount, and areal extent of any release of hazardous waste. Knowledge of the BZ demilitarization processes and the materials handled will be used with visual methods to identify released hazardous waste. As described in Section C of this Permit Application, the types of hazardous waste associated with this facility are extremely limited. The BZ munitions were produced to fixed specifications, are distinctively marked, and are tracked

with detailed inventory records. Likewise, the spent CMC mixture is drummed, labeled, and inventoried to provide detailed records of its handling and management. The identity of the materials managed at the BZ Demilitarization Facility will thus be known at each step of the process, from transport to final incineration. The procedures to be used to determine the areal extent of a release of hazardous waste are discussed in Paragraph G-4d, Control Procedures.

G-4c. Hazard Assessment [264.56(c); 264.56(d)].

The procedure for assessment of possible hazards to human health and the environment and the need for evacuation due to an emergency requiring the implementation of this Contingency Plan will include:

- Efficiency of containment of spilled or released material, considering volume, location, etc.
- Containment of contaminated firewater or firefighting chemicals
- Hazardous products of combustion
- Toxicological characteristics of material and potential pathways of exposure

G-4d. Control Procedures [264.52(a); 264.52(b)].

Potential situations requiring implementation of this Contingency Plan are assumed to fall into one of two classifications: fire or functioning of a BZ munition; or spillage of spent CMC or corrosive decontamination solution outside of the MDB.

Pine Bluff Arsenal has an existing Spill Prevention, Control, and Countermeasures Plan (SPCC Plan). It is hereby amended to include this Contingency Plan.

(A) Spill Control.

In the event of a spill of CMC mixture or of corrosive solution the Emergency Coordinator will notify the designated spill cleanup personnel who will don appropriate protective clothing and equipment prior to entering the spill area. Ignition sources will be removed and spark and explosion proof equipment and clothing will be employed for containment and cleanup of flammable material.

Should a spill occur at a hardstand or process area, the material will be held by the the built-in containment system and sump. The spilled material will then be pumped out, drummed, and disposed of in a permitted MPF. A dilute caustic detergent washdown will be used to decontaminate the area. It will be contained in the sump, pumped into drums, and then incinerated. If a spill occurs in a non-containment area, earth, sand, sandbags, absorbent pads, and booms will be used to contain and clean up the material. Spark and explosion proof equipment will be used if spilled material is flammable. Any recovered liquid waste, the containment and cleanup materials, and contaminated soil will be placed in drums for incineration. The soil in the area of a spill will be sampled and tested to ensure that all contaminated material has been removed.

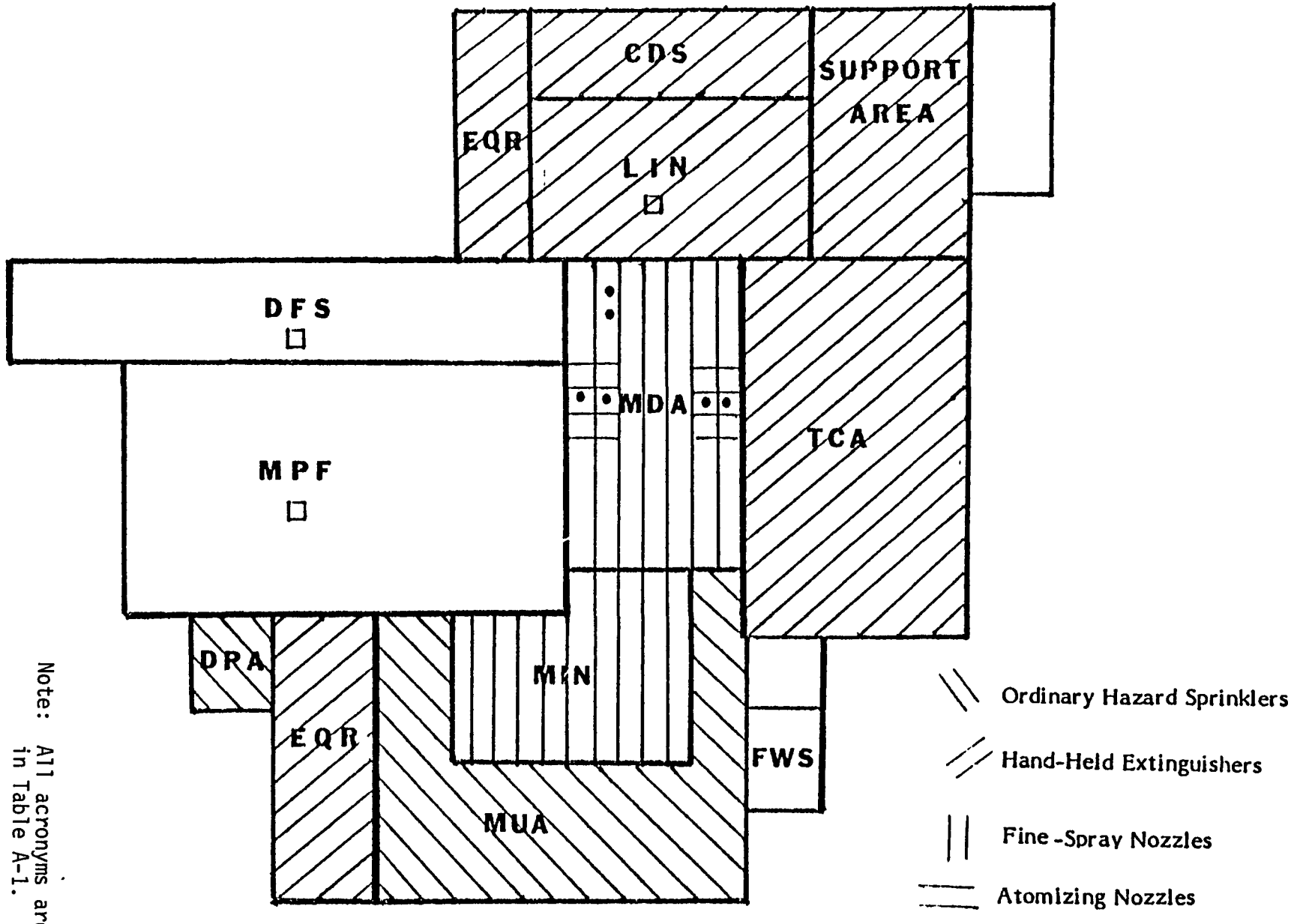
(B) Fire Control.

Two types of fires could occur at the BZ Demilitarization Facility: those associated with munition functioning and those associated with ordinary industrial causes such as electrical system problems, gas line leaks, and ignition of combustible materials. A combination of fire protection systems (FPS) will protect personnel and the facility from the hazards of both categories of fires. These systems are listed in Table G-1 and illustrated in Figure G-1.

Table G-1. MUNITION DEMILITARIZATION BUILDING AREAS REQUIRING FIRE PROTECTION

MDB Area	Operations	Fire Hazard	Ignition Source	Fire Protection System
MUA - Munition Unpack Area	• Uncrating M43 and M44 munitions • Transporting munitions and dunnage	Wood dunnage	None anticipated	Ordinary Hazard Sprinklers
MIN - Munition Inerting Area	• Removal of Upper Cluster Casing of M43 munitions--exposing the M138s • Inerting (desensitizing M43 and M44 munitions) • Transporting munitions	Munition	Functioning munition fuze	Fine-spray nozzles
MDA - Munition Disassembly Area	• Safing and removal of M138 munitions from the M43 Cluster • Disassembly of M44 munitions to M16 munitions followed by removal of fuzes and exposure of the M6 canisters • Removal of M6 canisters from the opened M16 pails • Transporting munitions/scrap	Munition	Functioning munition fuze	Fine-spray nozzles, Atomizing nozzles, and Coarse-spray nozzles
DPA - Drum Preparation Area	• Downloading of drums containing BZ contaminated material (Note: Downloading will be performed in a glove box)	Caustic methyl cellosolve (CMC)*, wood	Sparks from downloading operation	Ordinary Hazard Sprinklers
CR - Control Room	• Provide overall control and command of facility operations	Electrical Equipment	Overload, short circuit	Automatic Halon* protection system
TCA - Toxic Change Area	• Personnel clothing decon and change area	Clothing storage	None anticipated	Hand-held extinguishers
Support Area, EQR - Equipment Rooms	• Houses electrical equipment and heating, air conditioning and ventilation units	Electrical Equipment	Overload, short circuit	Hand-held extinguishers
CDS - Central Decon System	• Acetic acid dilution and distribution system	Electrical Equipment	Overload, short circuit	Hand-held extinguishers
LIN - Liquid Incinerator	• Thermal processing of liquid (non-combustible) process waste	Electrical Equipment	Overload, short circuit	Hand-held extinguishers
MPF, DFS, LIN	• Thermal processing of munitions, liquid and solid waste	Natural Gas Leak	Furnace	Natural gas leak detectors

* CMC is a mixture of 10 percent water, 10 percent NaOH and 80 percent methyl cellosolve. See Appendix G for Material Safety Data Sheets on methyl cellosolve.



MDB FIRE PROTECTION SYSTEMS

Note: All acronyms are explained in Table A-1.

FIGURE G-1

The MIN and MDA fire protection systems are being designed to prevent flame progagation and to prevent and/or minimize a BZ aerosol/air explosion from a functioning munition. The total water flow rate for the MIN spray system will be about 355 gallons per minute (gpm), which will be equivalent to 0.25 gpm per square foot (sq. ft.) of surface area. A manual release device will electronically activate the MIN FPS. The total water flow rate for all of the MDA spray nozzles will be approximately 651 gpm, with a duration of 3 minutes. Activation will be by manual release handle or by automatic UV/obscuration devices, depending on location in the MDA.

The FPS in the MUA and DPA, where wood and chemicals will be handled, will consist of a conventional industrial hazard sprinkler system designed to extinguish Class A material and chemical fires. Water flow rate will be about 0.25 gpm per sq. ft. of area covered. The system will be activated either manually or when fusible links on the sprinkler heads melt at the present temperature.

The facility control room will be protected by a total flooding Halon system automatically activated by smoke and/or heat detectors. The EQR's, Support Area 1000, CDS, LIN, and TCA will be equipped with hand-held dry chemical fire extinguishers. All areas of the MDB will be provided with smoke and/or flame detectors tied into the CR, ECF, and Pine Bluff Arsenal fire department. The incineration areas (MPF, DFS, LIN) will be equipped with natural gas detectors connected to an alarm in the control room.

In addition to the facility fire protection systems, Pine Bluff Arsenal maintains a fire control, rescue, and decontamination team with the mission to control fires, effect rescue, render life-saving first aid, and perform limited decontamination. Typical deployment of equipment includes a 1000 gallon tank truck, a 750 gallon pumper truck, a one-half ton truck, and a

station wagon. Each fire-fighting vehicle will be equipped with a self-contained breathing apparatus, and individual team members will be provided protective clothing and equipment.

G-4e. Prevention of Recurrence or Spread of Fires, Explosions or Releases [264.56(e); 264.56(f)].

The fire protection systems described in Section G-4d will be the principal means of preventing the recurrence or spread of fires, explosions, or releases of hazardous waste. Other actions include recovery or isolation of containers of waste, proper emergency shutdown of processes and operations, and monitoring of equipment for subsequent ruptures, leaks, problems with temperatures or pressures, etc.

G-4f. Storage and Treatment of Released Material [264.56(g)].

The methods for containing and cleaning up materials from a hazardous waste emergency and for decontaminating the affected area are described in Section G-4d. Any waste materials (e.g., recovered waste, absorbent, contaminated soil or water) resulting from the emergency situation will be placed in drums and stored in one of the designated hazardous waste areas prior to being incinerated at the facility.

G-4g. Incompatible Waste [264.56(h)(1)]. The hazardous wastes associated with the BZ Demilitarization Facility are not incompatible. Nonetheless, the Emergency Coordinator will ensure that no potentially incompatible materials are stored or located in the areas affected by the hazardous waste emergency until cleanup operations are completed.

G-4h. Post-Emergency Equipment Maintenance [264.56(h)(2); 264.56(i)]. After a hazardous waste emergency event, all emergency equipment listed in the Contingency Plan will be cleaned and repaired or replaced. Before operations are resumed, all safety equipment will be inspected to ensure that it is fit for future use. Emergency equipment will be cleaned and inspected by the user of the equipment (e.g., the fire department will take care of fire fighting equipment, the BZ plant operators will take care of the plant itself, etc.). The Regional Administrator and State Authorities will be notified that post-emergency equipment maintenance has been completed and that operations will be resumed.

G-4i. Container Spills and Leakage [264.171(c)].

The procedures for responding to container spills or leakage are discussed in Section G-4d.

G-4j. Tank Spills and Leakage [264.194(c)].

The solution in the four munition inerting vessels (See Section D) will not exhibit any of the characteristics of hazardous waste. This solution will be recycled and reused so that there is no blowdown to dispose of. Fresh solution will be added to the system to make up the small volume carried out of the MIN with the inerted munitions. Should any vessel leaks occur, inerting solution will be contained by the MIN sump system. Contents of the MIN sump are then incinerated.

G-4k. Waste Pile Spills and Leakage [264.252, 264.253].

Does not apply to this facility.

G-4l. Surface Impoundment Spills and Leakage [264.222, 264.227].

Does not apply to this facility.

G-4m. Incineration Spills and Leakage [264.52].

The facility ventilation systems will contain any airborne release within the incineration areas by use of negative pressure and air filteration equipment. Incoming air will be provided separately to each of the three furnace areas. A common ventilation exhaust system will direct exhausted air through a redundant high efficiency particulate air filter bank and activated carbon absorbers. This system will prevent any vapor from accidental spills or leakage in the high temperature area from reaching the environment.

G-4n. Landfill Spills and Leakage [264.52, 264.302(b)].

Does not apply to this facility.

G-4o. Land Treatment Spills and Leakage [264.52(a)].

Does not apply to this facility.

G-5. Emergency Equipment [264.52(e)].

The BZ Demilitarization Facility has been planned and designed to incorporate emergency equipment that will maximize safety during upset conditions. Records of inspections will be kept in the operating log. Facility personnel will be thoroughly trained in the use of the equipment and will participate in routine drills to ensure continued familiarity with the emergency equipment and procedures.

The fire control equipment for the facility is described in Section G-4d. A spray nozzle system including coarse spray, fine spray, and atomizing nozzles will be provided in the MIN and MDA. A conventional industrial hazard sprinkler system will protect the MUA and DPA. The control room will have a Halon system, and other facility areas will be equipped with hand-held dry chemical fire extinguishers. All systems and extinguishers will comply with appropriate NFPA standards. All of the facility areas will have smoke and/or flame detectors tied into the control room, the entry control facility, and the Pine Bluff Arsenal fire department. A dedicated fire water system will supply pressurized water for proper operation of the fire control systems. The pressurized water storage tank will have a capacity of at least 2,000 gallons of water, which will be adequate for a three-minute supply. (A munition fire will last no longer than one minute.) In addition to the fire protection systems at the BZ facility, mobile fire protection and control equipment is available at Pine Bluff Arsenal (see Table G-2).

Equipment to be stored at the BZ Demilitarization Facility for use in containing and cleaning up spilled hazardous materials includes:

Standard industrial absorbents

Absorbent pads

Decontamination solutions (caustic detergent, acetic acid)

Spare steel drums (55 gallon and 85 gallon)

Portable Pump

In addition to the spill control equipment that will be located at the BZ facility, Pine Bluff Arsenal has other equipment and vehicles available for containment, control, and clean-up of spills. This equipment is listed in Table G-3.

TABLE G-2

FIRE PROTECTION AND CONTROL EQUIPMENT

(1) Station Wagon

2 ea air packs

1 ea resuscitation inhalator aspirator

1 ea CPR thumper

1 ea Ambu-bay

(2) Supervisor Pickup

1 ea resuscitator inhalator aspirator

1 ea CPR Thumper

(3) Engine #1

300 gal water tank

1600 Ft. 2½" Hose

500 Ft. 1½" Hose

300 Ft. Booster Line

10 gal foam

3 gal bleach

6 air packs

(4) Engine #2

200 gal water tank

1600 Ft. 2½" Hose

500 Ft. 1½" Hose

300 Ft. Booster Line
20 gal foam
4 air packs

(5) Engine #3

300 gal water tank

1200 Ft. 2½" Hose

600 Ft. 1½" Hose

200 Ft. Booster Line

3 gal bleach

4 air packs

(6) Engine #7

1000 gal water tank

300 ft. 1½" Hose

300 Ft. Booster Line

20 gal foam

2 air packs

(7) Standby Equipment

6 ea air packs

65 Bales of Hay

46 ea Fireman Bunk Out Sets

6 gal bleach

65 gal foam

Sorbent Pads

48 boxes w/20 ea box

Personnel protective clothing to be available for the BZ Demilitarization Facility are described in Section F-4e and in Table G-3 of this Section.

Off-site communications and on-site communications between facility buildings will be by telephone. Communications between personnel in the control room and the operators in the MDB will be accomplished with an intercom system. Intercom and paging stations will be installed in the following areas (see Figure G-2 for locations):

- Loading dock (near ALC #1)
- MUA
- MIN
- MDA
- HDC
- MPF
- COA
- LIN
- DPA
- CDS
- Support Area 1000
- TCA
- EQR #1
- EQR #2
- APC Area (sample room)
- APC Area (on the platform).

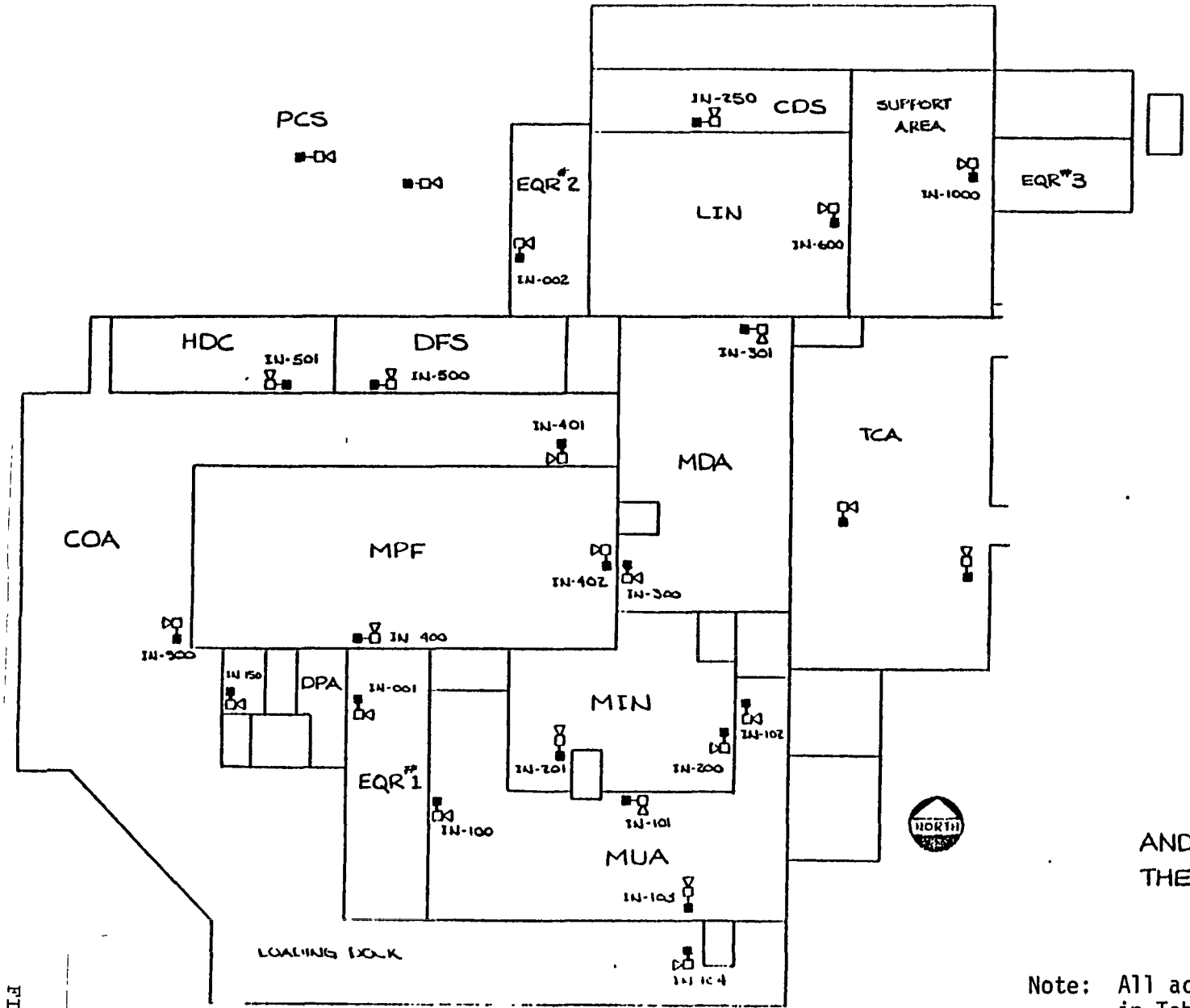
A closed-circuit television system, remotely operated from the control room, will be provided to monitor all critical operations in hazardous or unmanned areas. Television camera locations are shown in Figure G-3.

TABLE G-3

EMERGENCY VEHICLES AND EQUIPMENT AVAILABLE

FOR SPILL CONTROL AT PINE BLUFF ARSENAL

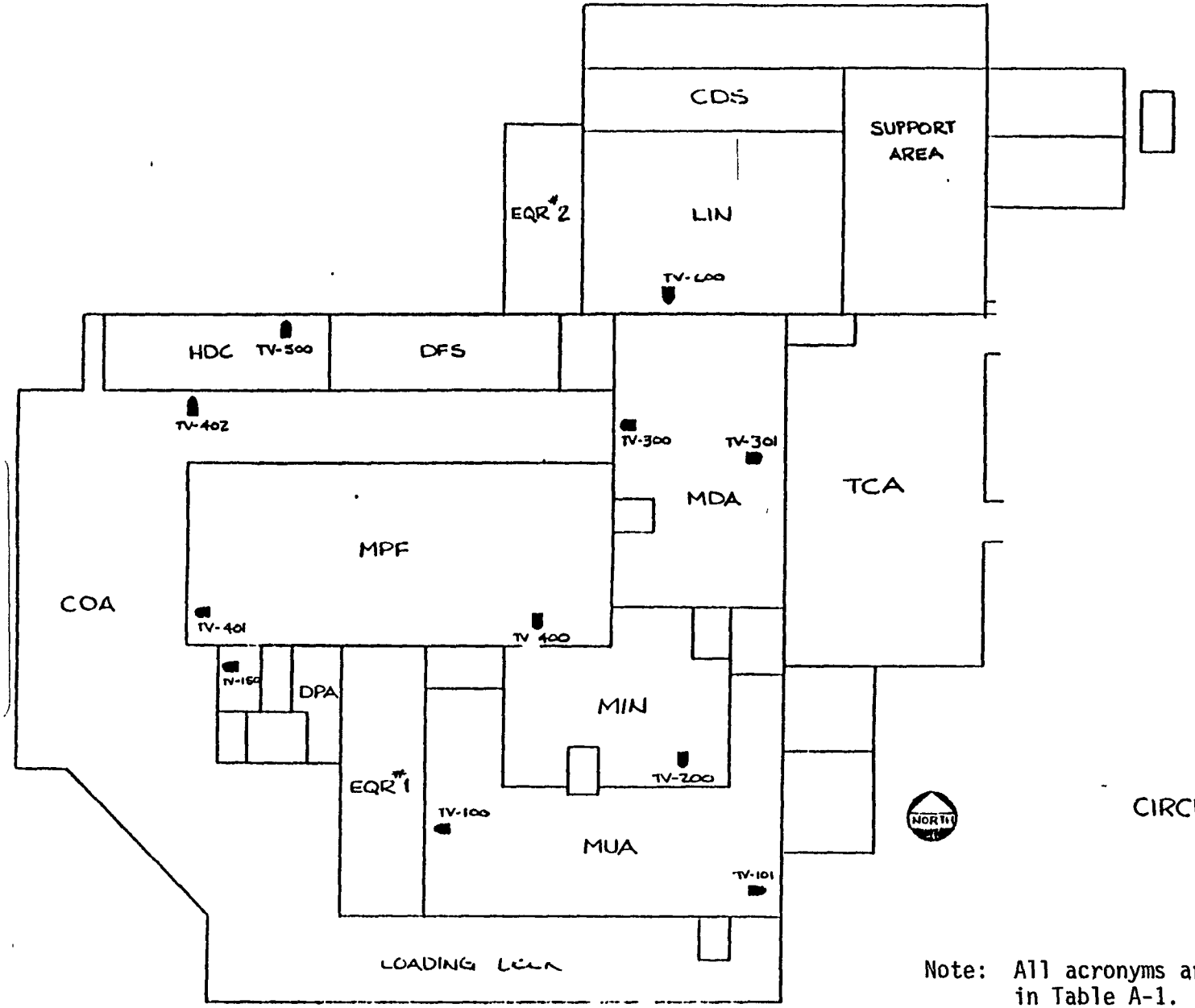
Serial #	Equipment Noun	Serial #	Equipment Noun
M&S1	Crane	M&S71	Sand Spreader
M&S2	Crane	M&S73	Grouting Machine
M&S3	Crane	M&S75	Fog Generator
M&S7	Dozer, D-7	M&S76	Sprayer
M&S8	Dozer, D-7	M&S77	Magnet Sweeper
M&S9	Dozer, D-7	M&S78	Coredrill
M&S10	Dozer, D-7	M&S79	Leaf Sweeper
M&S11	Grader	M&S90	Welder Machine
M&S12	Grader	M&S91	Welder
M&S13	Sheepfoot roller	M&S92	Welder
M&S23-32	Compressors	M&S93	Welder
M&S36	Backhoe	M&S106	Drill Seeder
M&S37	Backhoe	M&S107	Bushhog, 6'
M&S38	Tractors, Agri	M&S108	Sicklebor
M&S39	Tractors, Agri	M&S109	Disc
M&S46	Tractors, Agri	M&S112	Loader (Scoop type)
M&S48	Tractors, Agri	M&S115	Scraper Box
M&S49	Tractors, Agri	M&S502	Clamshell Bucket
M&S56	Generator	M&S503	Clamshell Bucket
M&S58	Generator	M&S505	Bucket, Dragline
M&S66	Lubricator	7H0756	SemiTrailer
M&S70	Sprayer		



LOCATION OF INTERCOMM AND PAGING STATIONS IN THE MDB.

Note: All acronyms are explained in Table A-1.

FIGURE G-2



LOCATION OF CLOSED CIRCUIT TVs IN THE MDB.

Note: All acronyms are explained in Table A-1.

FIGURE G-3

A variety of alarms will be used to alert facility personnel of emergency situations such as equipment failures, potential fires, upsets in utility flows, and potential BZ releases. All alarms will sound in the control room. Critical alarms will sound in the control room, outside the building (area alarm), at the entry control facility, and in the case of a fire alarm, in the Pine Bluff Arsenal fire department.

The MDB and support buildings will be equipped with smoke and/or fire detectors in all areas. When smoke or fire is detected, the area alarm will be activated as well as alarms in the control room, the entry control facility, and the Pine Bluff Arsenal fire department. The area alarm will consist of an electric siren outside the MDB. An annunciator panel will be provided in the entry control facility to enable identification of the specific location of a fire.

The emergency equipment at the BZ Demilitarization Facility will include a fully equipped first aid stations staffed during the first operating shift by emergency medical technicians.

G-6. Coordination Agreements [264.52(c), 264.37].

The following civilian agencies have completed mutual support agreements with this installation for assistance in the event of a chemical accident/incident (CAI) occurs at Pine Bluff Arsenal or other points and involves the off-post community:

	AGENCY AND INDIVIDUAL	CONTACT NUMBERS
a.	Pine Bluff Police Department Chief of Police	534-1212
b.	Jefferson County Sheriff Department Sheriff	541-5351

c.	Arkansas State Police Department Director	371-2151 (LR)
d.	Jefferson Regional Medical Center (Administrator)	541-7100
e.	Pine Bluff Jefferson County Health Dept. Director	535-2142
f.	White Hall Police Department Mayor	247-2399

NOTE: Mutual firefighting agreements are executed with the Pine Bluff and White Hall Fire Departments.

Copies of signed Mutual Support Agreements are distributed on a need-to-know basis only and will not be incorporated into this plan for general distribution. Applicable extracts of this plan, including subsequent changes, pertaining to the responsibilities of the agencies will be provided as part of continuing liaison and coordination. The assistance available to Pine Bluff Arsenal is summarized below.

Type Assistance	Source and Description
Security (Civil Authority)	Jefferson County Sheriff's Department, Pine Bluff Police Department, White Hall Police -- traffic control, evacuation Augmentation Reserve Force - Reference Tab D to Appendix I, this plan, and the Pine Bluff Arsenal ARF Support Plan Federal Bureau of Investigation 902d ML, PRAD, Edwin Rundle (A-829-2550) 24 hour contact is 902 NI, FSH (A-471-6671)
Explosive Ordnance Disposal	52d Ordnance Detachment (EOD) at Pine Bluff Arsenal or 546th Ordnance Detachment, EODCC, Fort Sam Houston, Texas, if backup required.

General Officer On-Scene Commander	CDR, DARCOM, Assume complete CAIC responsibilities.
Technical Advice	CDR, USA AMCCOM DRSMC-SR - Surety DRSAR-SF - Safety CDR/Dir, CRDC DRSMS-CLS - Surety CDR, USATHAMA DRXTH-SE-B Program Manager - Munitions Systems
Medical Advice and Assistance	The Surgeon General's Chemical Medical Consultant Emergency Medical Teams Jefferson Regional Medical Center, or Jefferson County Health Officer
Firefighting	Pine Bluff and White Hall Fire Departments (secondary fires only, if on-post)
Additional Decontaminants	See Tab G to Appendix I for Point of Contacts

G-7. Evacuation Plan [264.52(f)].

Two kinds of emergencies could cause evacuation of the affected building/area: (1) functioning of a BZ munition, or (2) fires. No evacuations are planned due to spills, because of the very limited sizes of the batches being handled.

A BZ munition could function inside of the MDB or the MHA. If this occurred, the affected building would immediately be evacuated. Figure G-4 shows primary and secondary routes of evacuation for the MDB. Since there is only one door in the MHA, this door will be the only exit for evacuation. A munition functioning inside a building will also cause the CAIC Plan to be implemented. The evacuation will be to the personnel support complex, where personnel will check-in and await further instructions.

If a munition functions during transport to the facility, any personnel within 720 yards will be immediately evacuated, and the CAIC Plan implemented.

If a non-munition fire occurred (e.g., ignition of CMC), personnel in the building in which the fire occurs will be immediately evacuated to the medical area in the Personnel Support Complex (PSC) where they will check in and await further instructions. Evacuation routes are as described above. If the fire occurs during transport (i.e., not inside a building) all personnel will be moved at least 100 yards upwind of the fire.

Building evacuations will be announced over the facility intercom system (Figure G-2) by control room personnel. "Evacuation" of open (outside) areas due to in-transit accidents will be directed by the guards accompanying the shipment (in the case of munitions) or by the driver and his assistant (in the case of CMC). In each case, the Emergency Coordinator will be immediately notified by phone or radio of the actions taken.

G-8. Required Reports [264.56(d) and 264.56(i)].

Any emergency event that requires implementation of this Contingency Plan will be reported in writing to the Regional Administrator of the Environmental Protection Agency within 15 days. The following information will be provided:

- Name, address, and phone number of owner/operator
- Name, address, and phone number of facility
- Date, time, and type of incident (e.g., fire, spill, etc.)
- Name and quantity of material released
- Extent of injuries, if any

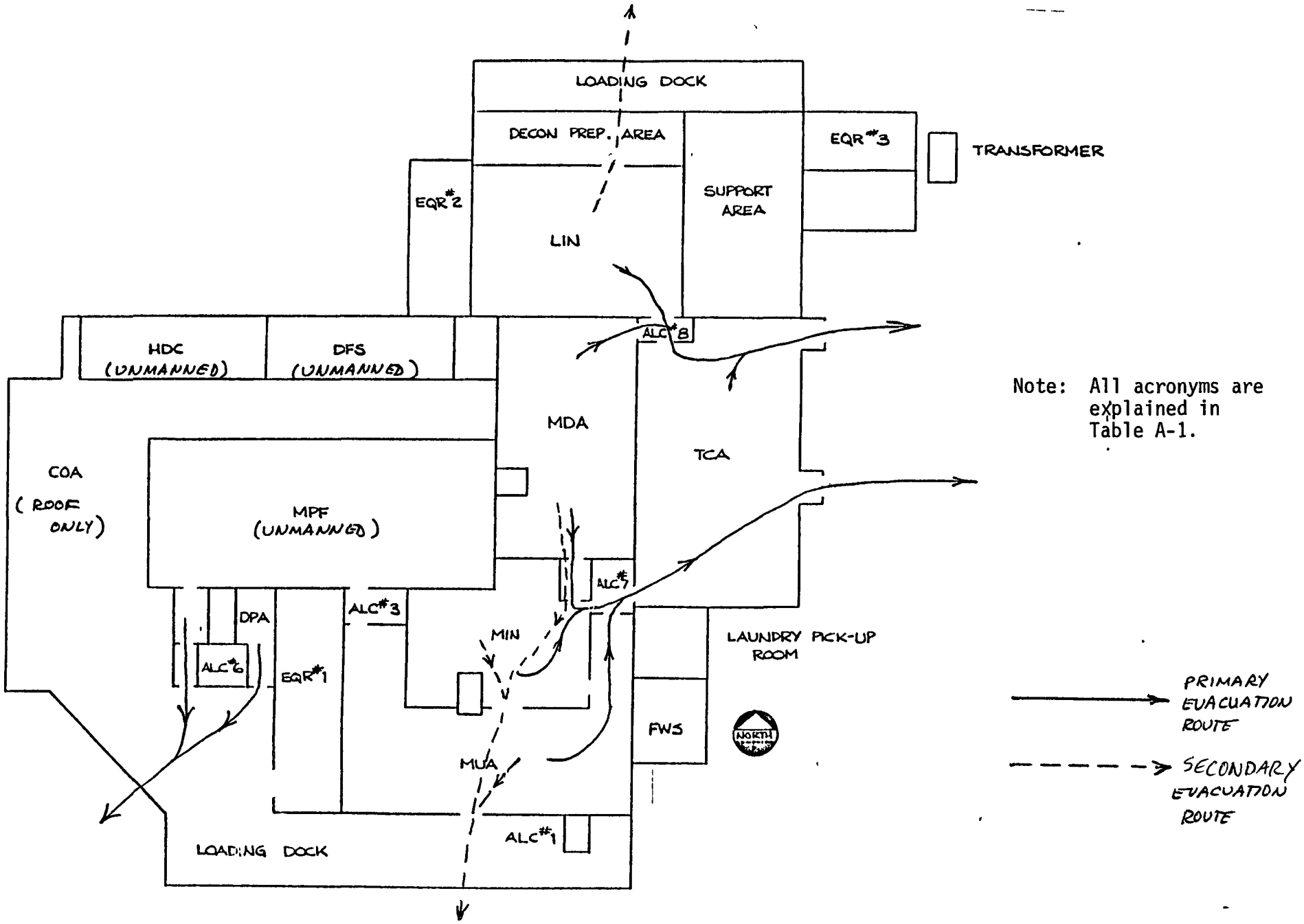


FIGURE G-4

EVACUATION ROUTE

- Assessment of actual or potential hazards to human health or the environment, if applicable
- Estimated quantity and disposition of material recovered from the incident.

The time, date, and details of emergency incidents requiring implementation of the Contingency Plan will be entered in the facility's operating record.

APPENDIX A

TO

SECTION G

CHEMICAL ACCIDENT AND INCIDENT CONTROL PLAN (CAIC)

PINE BLUFF ARSENAL

DISASTER CONTROL PLAN
ANNEX C

CHEMICAL ACCIDENT AND INCIDENT CONTROL PLAN

(SHORT TITLE: PBA-CAICP)
13 AUGUST 1982

DEPARTMENT OF THE ARMY
PINE BLUFF ARSENAL
PINE BLUFF, ARKANSAS 71611

OPERATIONS SECURITY INSTRUCTIONS

The information contained in this Annex to the installation's Disaster Control Plan contains unclassified information which is critical to the effective execution of mission responsibilities. Those aspects of this plan which relate to chemical surety and installation security materials and procedures are considered sensitive and should not be discussed with individuals who do not possess a need-to-know. This document will be handled in a manner to preclude access by such individuals.

ANNEX C TO PBA-DCP

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RSENAL DISASTER CONTROL PLAN (PBA-DCP)

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qual Employment Opportunity Officer	1
udge Advocate	1
ublic Affairs Officer	1
hief Medical Officer	1
DR, USACC - Pine Bluff	1
DR, 52nd Ordnance Detachment (EOD)	1
IC, USA TEU Detachment	1
perations Center/Alternate Operations Center	20

DEPARTMENT OF THE ARMY
PINE BLUFF ARSENAL
PINE BLUFF, ARKANSAS 71611

SARPB-PA

13 August 1982

SUBJECT: Annex C (Chemical Accident and Incident Control Plan) to Pine Bluff Arsenal Disaster Control Plan

SEE DISTRIBUTION

1. Subject document is forwarded for guidance and necessary action. It supersedes and replaces Annex C (Chemical Accident/Incident Control Plan) to the PBA-DCP, dated 1 September 1981.

2. This plan is effective for planning, coordination, and execution upon receipt. Internal supporting plans and SOP's will be developed by installation elements in accordance with policies, responsibilities, and procedures established by this plan.

STANLEY R. OLSON
Colonel, OrdC
Commanding

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Director National Center for Toxicological Research Jefferson, AR 72079	1
Director State Office of Emergency Services Conway, AR 72032	1
Coordinator Pine Bluff-Jefferson County Civil Defense 800 East Eighth Street Pine Bluff, AR 71601	1
Sheriff of Jefferson County Court House Pine Bluff, AR 71601	1

CHANGE RECORD

CHANGE NO.	DATE	DATE ENTERED	BY WHOM ENTERED

ANNEX C TO PBA-DCP

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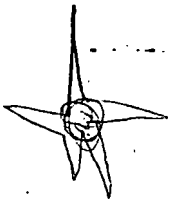

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PINE BLUFF ARESENAL DISASTER CONTROL PLAN

ANNEX C

CHEMICAL ACCIDENT/INCIDENT CONTROL PLAN (CAICP)

1. Purpose. This plan establishes policy, assigns responsibilities, and prescribes procedures for Chemical Accident/Incident Control (CAI) for Pine Bluff Arsenal (PBA).

2. Scope. This plan applies to all elements of PBA.

3. Definitions. For the purpose of this plan, the following definitions apply:

a. Button-Up. PBA code word used to direct personnel in a chemical hazard area to enter and/or remain inside a building with all doors, windows, vents, fans and air conditioners closed or shut off.

b. Chemical Accident. (Reference AR 50-6.) Any situation involving chemical surety materiel which results in:

(1) Exposure of personnel to a chemical agent that causes injury to personnel or exhibition of physiological symptoms requiring more than standard first aid procedures or results in a lost workday (days away from work).

(2) Chemical agent hazards off post.

(3) Property damage of $10,000 or more.

(4) An unintentional or uncontrolled release of a chemical agent where the agent quantity released to the atmosophere is such that a serious potential from exposure is created by exceeding the applicable maximum allowable agent concentration-time levels for exposure of unprotected personnel.

(5) A production interruption exceeding 24 hours, unless voluntarily interrupted pending the outcome of an investigation into the cause.

(6) Significantly degraded operational capability.

(7) Or may result in unusual interest by the public news media.

c. Chemical Incident. (Reference AR 50-6.) Any situation involving chemical surety materiel which results in:

(1) Exposure of personnel to a chemical agent that results in lost work days (restricted work activity) or the need for standard first aid treatement.

(2) Release of a chemical agent without exposure of personnel which is not reported as a minor leak or an accident.

(3) Property damage of at least $250 and less than $10,000.

(4) Actual or suspected loss or actual or attempted theft or diversion of a chemical surety materiel.

(5) Actual or attempted penetration of a chemical exclusion area.

d. Chemical Accident and Incident Control (CAIC). Those actions taken to save life, preserve health and safety, secure chemical surety materiel, protect property and provide for the controlled release of information in the event of a chemical accident or incident.

e. Chemical Accident/Incident Control Officer (CAICO). The CAICO is the officer, designated by the Commander to proceed to the scene of an accident/incident, assume control of emergency teams and supervise support operations in the name of the Commander or the On-Scene Commander upon his arrival.

f. Assistant Chemical Accident/Incident Control Officer (Asst CAICO). An officer designated by the Commander to serve as a representative of the CAICO at the actual site of the chemical accident/incident.

g. CAI Scene. The general area in which personnel and resources are directly affected by or are directly involved in response to a CAI.

h. CAI Site. The actual location of the munition/material involved in a CAI.

i. CAIC Task Organization. Officers and emergency teams designated and trained to execute CAIC.

j. Chemical Staff Duty Officer (CSDO). An individual appointed by the Adjutant who, during non-duty hours will perform notification and other assigned emergency duties.

k. Chemical Surety Materiel (CSM). All lethal and incapacitating chemical agents and their related weapons systems that are either adopted or being considered for military use. Smoke, and incendiaries, defoliants and riot control agents are excluded.

l. Not used.

m. Civilian Authorities, Agencies, or Activities. Civilian authorities, agencies, or activities include municipal officials, law enforcement agencies, hospital administrators, coroners, and similar organizations which might be involved in mutual support operations

n. Emergency Incident Control Officer (EICO). A representative of the Commander who will assume or assist in control of all personnel and activities engaged in operations involved in an emergency incident of the type to which he has been assigned.

o. Fire Alarm Watch Desk (FAWD). A single telephonic point of contact for initial reporting of emergency events such as fires and chemical accidents or incidents. The instrument (Ext. 3500) is located in Security Police Headquarters (Bldg. 10-050) on the Security Police Desk alongside the Master Telephone used.

p. Flash Red Grenade. PBA code name for abbreviated notification of a CAI.

q. NBC Aid Station. A facility for diagnosis and treatment of persons exposed to toxic chemical agents (lethal and incapacitants).

r. NBC Team. A team of technically trained and equipped individuals who are capable of detecting and identifying chemical agents, and performing limited decontamination.

s. Off-Post Monitoring Teams. Teams of individuals trained in monitoring for presence of chemical agents at off-post locations.

t. On-Scene Commander (OSC). A term applied to a general officer who has been dispatched to the scene of a chemical accident by the Commanding General having CAIC responsibility.

u. Potential Downwind Hazard. A hazard estimate based on an assumed agent release, selected dosage for significant symptoms, and prevailing weather conditions.

v. Test Exercise. An exercise conducted primarily for evaluation purposes.

4. General. Chemical surety materiel covered by this plan and manufactured or stored at PBA includes GB, VX, HT, HD, CK, and BZ agents/munitions. A CAI that results in the uncontrolled release of any of these agents would be lethal or incapacitating to installation personnel and could contaminate land, animals, plants, and property. The release of sufficient quantities of any of these agents to drift off-post, or the occurrence of a CAI off-post could result in such hazards to civilian communities and other agencies near the accident or incident site.

5. Objective. To control and minimize the hazardous effects that might result from a CAI.

6. Policy.

a. Responsible elements will automatically implement this plan without further instructions upon receipt of notification that an actual or simulated chemical accident or incident has occurred on-post. Response to minor incidents (such as leaking munitions/containers) is covered in local SOP's and is not included in this plan.

b. Emergency teams and personnel may be dispatched by the Commander to an off-post location in the execution of this plan in event either of the following conditions exist:

(1) An on-post emergency expands or threatens to expand off-post.

(2) An accident/incident occurs that involves chemical materials enroute to a shipping point while materials are still in the custody of Pine Bluff Arsenal.

(3) A chemical accident or significant incident occurs in "the vicinity of this installation".

NOTE: The phase, "The vicinity of this installation", is considered to mean such close proximity that this installation might be in a downwind vapor hazard area.

(4) An off-post accident/incident occurs in which the command or agency of custody requires assistance, and PBA has the most rapid response capability. PBA assistance to other commands/agencies in CAIC will be on an "as requested and as available" basis.

c. It is not anticipated that PBA emergency teams will be dispatched to distant locations or be required to conduct operations off-post over extensive periods of time. If such a situation should develop, logistical support arrangements will be required.

d. Alternates for each officer and team chief in the CAIC Task Organization will be appointed as required. Administrative leave and passes will be controlled to the extent that an adequate CAI response capability is maintained.

7. Responsibilities:

a. Commander, PBA will act for the CDR, US Army Materiel Development and Readiness Command, in event on-post hazards extend off-post until the responsibility is assumed by higher authority. In event of an off-post Army chemical accident or incident, AR 50-6 requires the Commander of the nearest Army installation to assume control of emergency operations; take all necessary safety, security, rescue, and control actions within capabilities; and, remain in control until relieved by the On-Scene Commander (OSC). In addition, the Commander will:

(1) Designate the PBA CAICO, Assistant CAICO, Alternate CAICO, and Alternate Assistant CAICO.

(2) Insure that personnel of the CAIC Task Organization are released from routine job assignments as necessary to accomplish the required planning, training, coordination, testing, and the execution of this plan.

(3) Order a CAI STANDBY ALERT for part or all of the CAIC Task Organization when deemed necessary prior to the shipment, receipt, or other operations/emergencies involving chemical munitions/materiel.

(4) Request assistance from higher headquarters, USA Forces Command, and other off-post sources, when in his judgment, the seriousness of the local situation indicates a need for such assistance.

(5) When PBA is the nearest installation or the first to be notified of an off-post CAI, initiate emergency actions deemed practical. If immediate security is needed at the scene of an accident/incident, notify the nearest civil police and request that they seal off the area pending arrival of military forces.

(6) Review requests for assistance in CAI control from other command agencies and authorize any actions to be taken prior to the dispatch of any members of the CAIC Task Organization to the scene of an off-post CAI.

(7) Authorize, in advance, liaison with representatives of the civilian community for the purpose of informing or coordinating plans and agreements relating to chemical emergencies.

(8) As soon as possible following a CAI, submit a recommendation, as item 15 of Safety Report (TAB K to APPENDIX I), concerning the necessity of dispatching a general officer on-scene commander to the scene. This will be submitted as soon as the Commander can reasonably determine the probability of an off-post hazard, the magnitude of casualties or anticipated casualties, and the expected duration and general area of the CAI.

(9) Provide support as necessary to Commander, ARRCOM, or the DARCOM OSC in the conduct of technical investigations.

b. Deputy Commander and Executive Assistant will assist the Commander and, when appropriate, execute the responsibilities of the Commander, and supervise/direct Operations Center (OC) operations.

c. Adjutant (Chief, Personnel and Community Services Office) will:

(1) Provide necessary information and instructions concerning this plan for inclusion in the Instruction Book for the Staff Duty Officer.

(2) Appoint Chemical Staff Duty Officers (CSDO's) as required.

(3) Orient Staff Duty Officer and NCO Staff Duty Officer personnel, including CSDO's on those procedures of this plan which would require their non-duty hour participation.

(4) Provide personnel to support the CAICO task organization as directed including photographic support.

(5) Provide officer in charge of Conventional Security/ Building Entry Security Team Control effort.

d. Directors and Chiefs of Staff Offices will:

(1) Prepare internal SOP's and emergency plans prescribed for development in other sections of this plan as directed. Provide copies to Directorate of Plans, Readiness, Surety, and Force Development.

(2) Designate personnel required to perform emergency duties either individually or on emergency teams, and insure their participation in training programs and test exercises. Participation in scheduled training and all exercises has priority over routine duties.

(3) Provide administrative, logistical, transportation or technical support services required in implementation of this plan.

(5) Notify Dir/PRS&FD and Officers and Team Chiefs of the CAIC Task Organization at least one full workday in advance of each on-post movement, surveillance, or other storage operation involving chemical materiel covered by this plan. See APPENDIX II for information to be included in the notification.

(6) Establish procedures to notify all assigned personnel, visitors and/or contractors in area of responsibility of CAI warning and alert announcements.

(7) Comply with the following (when the OC is activated) before reporting any information about the CAI to higher headquarters:

(a) Coordinate with the Safety Representative in the OC for information content.

(b) Obtain approval for dispatch of report from the Chief, Operations Center.

(c) Provide copy of report to Chief, Operations Center for the official log.

e. Directorate of Plans, Readiness, Surety, and Force Development will:

(1) Develop and monitor the maintenance and implementation of this plan.

(2) Establish and maintain liaison with other installations and with civil authorities/agencies to effect the rendering and receiving of assistance when needed as a result of a CAI.

(3) Review, for approval, internal SOP's and emergency plans that support this plan,.

(4) Direct, develop, and evaluate programs for training and refresher training of personnel, testing of plans and procedures, inspection of facilities and equipment necessary for the effective implementation of this plan.

f. CAICO (Alternate CAICO in his Absence will:

(1) Prepare and maintain TAB A to APPENDIX I to this plan.

(2) Assist personnel and Team Chiefs of the CAIC Task Organization to determine the personnel, supplies, and equipment required to accomplish accident/incident control.

(3) Establish a Command Post (CP) and supervise/coordinate activities at the scene of an accident/incident.

g. Assistant CAICO (Alternate Assistant CAICO in his absence will:

(1) Direct activities at the actual site of the CAI to effect containment and render safe operations.

(2) Exercise control and supervision of emergency forces at the actual site, and accomplish those actions directed by the CAICO and by TAB A to APPENDIX I of this plan.

(3) Perform other directed tasks.

h. Chief, Operations Center will:

(1) Prepare and maintain TAB G to APPENDIX I of this plan.

(2) Staff the Operations Center and direct CAI operations.

(3) Insure that maps, plotting equipment, and trained personnel are available to plot and predict contamination cloud movements.

(4) Insure that reports necessitated by the nature of the emergency are properly coordinated prior to submission.

(5) Task Directories and Staff Offices for personnel, equipment, transportation, communications, and other support needed in reaction to the emergency.

i. NBC Officer will:

(1) Prepare and maintain TAB B to APPENDIX I, this plan.

(2) Assume control of Hot Line teams and resources upon arrival.

(3) Conduct surveys, control movement and direct decontamination operations at the Hot Line.

(4) Designate teams and assign individual responsibilities.

(5) Perform coordination necessary for assignment and training of NBC personnel.

(6) Supervise the organization and training of Off-Post Monitoring Teams.

(7) Assure that equipment and supplies required by current directives are on hand and operational.

j. Chief, Security Office will:

(1) Prepare and maintain TAB D to APPENDIX I, this plan.

(2) Organize and train security forces as prescribed by controlling directives.

(3) In coordination with Director of Plans, Readiness, Surety, and Force Development, maintain liaison with other installations and civil law enforcement agencies to assure availability of assistance in security matters.

(4) Procure and maintain equipment and supplies required for execution of this plan.

(5) Develop and maintain procedures to implement guidance in current security directives that relate to this plan.

(6) Maintain contact with Military Intelligence to obtain immediate notification of any potential threats to the security of the installation and relay such information by electrical means to Commander, US Army Materiel Development and Readiness Command, ATTN: DRCSS.

(7) Security reports required as a result of, or related in anyway to a CAI will be submitted through the OC (if activated). Such reports will be coordinated with the OC Safety Representative (Ref. TAB K to APPENDIX I) prior to approval for dispatch by the Chief of the OC.

k. Chief Medical Officer, US Army Health Clinic will:

(1) Prepare and maintain TAB E to APPENDIX I, this plan.

(2) Provide emergency medical service and furnish technical guidance concerning chemical health hazards.

(3) In coordination with Dir/PRS&FD, maintain liaison with hospital officials and representatives of the medical profession in communities adjacent to PBA to assure mutual support in event extension hazards should result from a CAI.

(4) Maintain a capability for operation of the NBC Aid Station (NBCAS) at all times (around-the-clock) as needed. Establish an alternate NBCAS as required.

(5) Perform tests and maintain records in accordance with current directives on all personnel who work with or near toxic chemical agents.

(6) Designate the Chief and personnel of the Emergency Medical Team (EMT).

(7) Insure training of EMT personnel and readiness of supplies and equipment to execute CAIC actions.

(8) Accomplish medical staff functions, including ambulance services, in event of a CAI.

(9) Render assistance/advice to civilian medical personnel and facilities on care and treatment of casualties resulting from a CAI.

(10) If required, request a medical consultant from Health Services Command through the DARCOM Surgeon.

(11) Submit RCS MED-16 Reports as prescribed in TAB E, APPENDIX I.

l. Not used.

m. Director, Facilities Engineering will:

(1) Prepare and maintain TAB F to APPENDIX I, this plan.

(2) Provide personnel and equipment required in responding to a CAI or disaster type emergency and provide required degree of supervision to assure proper execution of emergency actions.

(3) Install and maintain General Alarm Equipment (Main Body, APPENDIX II).

(4) Insure that the Chief, Fire Prevention and Protection Division adequately trains and equips personnel to accomplish tasks assigned to Fire, Rescue, and Decon Team (TAB F to APPENDIX I).

n. Director, Supply and Services will:

(1) Provide transportation, supplies, and equipment support to CAIC Task Organization.

(2) On direction of Operations Center, notify on-post railroad personnel to stop passage of trains through contaminated area.

(3) Notify and provide a copy of Report of Shipment of chemical agents/munitions to Dir/PRS&FD in advance of shipping date.

o. Commander, Headquarters Detachment will:

(1) Provide personnel for NBC Teams as required by TAB B to APPENDIX I, this plan.

(2) Provide personnel for Conventional Security/Building Entry Security Team (TAB D, APPENDIX I).

p. Staff Duty Officer will, during non-duty hours, perform emergency duties in accordance with instructions provided, to include as indicated in separately published "Directory of Personnel Assigned Emergency Duties During Chemical Accidents/Incidents."

q. Chemical Staff Duty Officer will:

(1) Assume responsibilities of the Staff Duty Officer (SDO) when the SDO is a member of the CAIC Task Organization and is assigned other emergency duties.

(2) Continue notifications initiated by SDO.

(3) Activate and operate the Operations Center (OC) until arrival of the OC staff.

(4) Continue to provide assistance to OC staff until released by senior staff member present.

r. Chief, Safety Office will:

(1) Provide assistance as requested in the training of CAIC personnel, and in the implementation of this plan.

(2) Inspect equipment, procedures, and operations to insure compliance with current safety directives.

(3) Assure performance of tasks prescribed in TAB K to APPENDIX I.

s. Public Affairs Officer will:

(1) Prepare and maintain TAB H to APPENDIX I, this plan.

(2) Secure approval of the Commander or Deputy Commander before releasing information regarding an on-post accident/incident. Coordinate reports prior to release with Safety Representative and other staff members are required.

(3) Serve as host for any news agency personnel admitted to the installation. Such personnel will not be admitted to the OC unless approved by the Commander or senior individual present in absence of the Commander.

(4) In event of an off-post operation, advise CAICO on information policies and assist by serving as contact for representatives of news agencies.

(5) Conduct news conferences as required.

t. Judge Advocate will:

(1) Prepare and maintain TAB I to APPENDIX I, this plan.

(2) On order of CAICO, report to the scene of an accident/incident with post photographer to survey the situation and photograph scenes that might be used as evidence.

(3) Request back-up or alternate claims service, if required, from Fort Polk, Louisiana.

u. Director, Product Assurance will:

(1) Provide inspection and calibration services for maintenance of CAIC equipment.

(2) Provide laboratory services as needed for detection and identification of chemical agents.

(3) Provide personnel, technical advice and assistance, as requested, concerning explosive and chemical hazards.

v. Commander, 52nd Ordnance Detachment (EOD) will:

(1) Provide advisory assistance in the planning, training, and testing of this plan.

(2) Execute actions in accordance with established EOD doctrines as requested by CAICO.

(3) Request back-up or alternate EOD service, if required, from Commander, 546th Ordnance Detachment (EODCC), Fort Sam Houston, Texas.

w. Director, Materiel Management, & Demilitarization will:

(1) Prepare and maintain TAB J to APPENDIX I, this plan.

(2) Provide personnel/equipment for decontaminating teams.

(3) Provide personnel to perform emergency containment,

x. Chief, Management Information Systems Office will:

(1) Provide required ADP and programming support, as required, to implement hazard analysis and surety personnel management.

(2) Establish procedures to alert required personnel to provide required support.

y. CDR, USACC - Pine Bluff will:

(1) Provide communication facilities/equipment and message center support indicated in APPENDIX II, and assistance as required, for testing and execution of this plan.

(2) Serve as Communications-Electronics Officer in the Operations Center (CEO - OC).

z. OIC, USA Technical Escort Unit, PBA Detachment will:

(1) Provide advisory assistance in the planning, training, and testing of this plan.

(2) Execute actions within capabilities as requested by the PBA OC/CAICO.

3. Procedures: When an emergency occurs in a normal work situation which involves a chemical agent or munition, operating personnel will execute emergency actions in accordance with this plan and appropriate local SOP. If emergency is a chemical accident or incident (as defined in Paragraph 3), a FLASH RED GRENADE notification will be initiated immediately (as prescribed in APPENDIX II). Other types of emergencies may occur which cannot be immediately defined as a chemical accident or incident, but which pose a potential threat to the security of stored agents/munitions and ultimately to the safety of personnel and the environment. In these emergencies, a notification will also be initiated immediately. An advance alert notification will be disseminated when special operations involving chemical agents/munitions are scheduled to be conducted on post. Such notifications are disseminated prior to the conduct of the operation and may require placing teams with an emergency response requirement on standby. Guidelines/procedures for making all of the above notifications are prescribed in appendices to this plan and supporting SOP's. General procedures to minimize the hazardous effects of a chemical accident/incident are divided into four phases as described below:

a. PHASE 1 - Discovery and Notification.

(1) Chemical Accident or Incident:

(a) The first individual (or his supervisor, if present) who discovers or becomes aware of a chemical accident or incident (hereafter referred to as First Knowledgeable Person) will immediately don his protective mask, then notify the Fire Alarm Watch Desk (FAWD) and personnel in the immediate area by radio, telephone (ext 3500), or through established supervisory channels. A FLASH RED GRENADE message alert will be given (reference APPENDIX II) for chemical accidents and incidents. In addition to the situations included in the definition for these emergencies, other non-typical situations requiring a FLASH RED GRENADE message would be discovery of an open, unattended agent igloo, discovery of an individual exhibiting agent symptoms, and the observed theft of chemical agents/munitions.

(b) If a red smoke grenade is conveniently available, it will be ignited to warn personnel in the area and to indicate the location of the accident and direction of local wind. Immediate life saving first aid will be administered. It is recognized that specific circumstances may alter the sequence in which the steps outlined in Phase I are conducted.

(c) When additional information becomes available it will be relayed immediately in the form of a "follow-up" or "detailed message".

(2) Other Emergencies:

(a) Standby Alerts may be directed as a pre-readiness measure when operations are scheduled involving chemical agents/munitions. Examples of such events would be the on/off movement of material or the conduct of unusually hazardous operations. A standby alert message will be given in such situations and is disseminated by the Dir/PRS&FD. The PBA Operation Center will be activated and manned appropriately for the particular emergency.

(b) Security situations may develop which although reportable as a chemical accident/incident do not result in an immediately defined hazard. Examples of such situations would be the intrusion of unidentified personnel into the agent areas, or an actual or attempted theft. Response by all emergency teams and personnel may not be initially required or practicable in such situations but a notification will enable accomplishment of certain preparatory actions and enable teams and personnel to attain a higher readiness condition in event the situation deteriorates. A notification will be given in such situations in accordance with the following procedures.

1 The first individual (or his supervisor, if present) who becomes aware of an emergency of the type described above will immediately relay all known facts and conditions to the individual designated responsibility for receipt of emergency notification within the element (for example, Director of Materiel Management and Demilitarization, Guard Captain of Security Force, Director of Product Assurance, Safety Officer, or Chief, FPPD, etc.). This individual is then responsible for determining immediate reactions necessary and for reporting the situation immediately to FAWD. If FAWD is the First Knowledgeable Individual, appropriate response actions, alerts and reporting will be accomplished. The First Knowledgeable Individual will then execute those duties directed by supervisory personnel or by local SOP.

2 Initial response will be those required by elements with normal operational responsibilities for the particular situation. Other CAIC elements will assemble and/or prepare for immediate response if a CAI should occur.

b. PHASE 2 - Dissemination.

(1) The FAWD will disseminate FLASH RED GRENADE messages and all security/safety situation notifications initiated in accordance with alerting procedures. Dissemination by FAWD will be to elements served by the Primary Alarm System. The Dir/PRS&FD will disseminate Secondary Notification and Standby Alert Messages for each emergency and in advance of planned operations involving chemical agent/ munitions.

(2) Dir/PRS&FD during duty hours, will activate the Secondary Alarm System and disseminate notification messages received on the Primary Alarm System. During non-duty hours, a non-duty notification system will be activated at the FAWD. The CSDO will implement the secondary notification system. The OC will be activated and the radio operation will relay the FLASH RED GRENADE message on the Fire and Security and the Depot nets, if the traffic does not indicate that notification has already been received. The OC will initiate radio monitoring when security/safety situations/ notifications are received and execute other pre-planning actions. The "detailed" message will be disseminated on the Secondary Alarm System and radio nets, as required.

(3) Team Chiefs and Staff Offices will disseminate in-turn notifications to team members and alternates in accordance with internal alert procedures.

(4) PBA elements sponsoring work groups (or contract workers) in the general area of the CAI will make in-turn notifications to those groups with appropriate emergency instructions. If unable to contact groups, the sponsoring elements will so inform the OC giving number of personnel and work site locations. Response to security/ safety situation notifications will be based upon emergency instructions disseminated at the time.

(5) In CAI's OC personnel will "button-up" available information and announce the HAZARD AREA with evacuate or "buttonup" instructions included, if deemed necessary. This annnouncement will be disseminated by radio and by telephone to elements in the hazard area. Notification of civil authorities will be made, as required, if off-post hazard is anticipated.

(6) Upon receipt of a FLASH RED GRENADE message, the CAICO, Assistant CAICO, Fire, Rescue and Decon (FR&D), NBC Survey Team and Emergency Medical Team (EMT) will normally depart for the scene for the accident/incident; however, when the exact CAI site is unknown, forces will standby in an immediate response posture until a proper assessment of the situation has been made and specific location announced with response instructions. Security Emergency Forces will be dispatched, and the NBC Team mobilized.

c. PHASE 3 - Rescue and Containment.

(1) The Fire and Rescue Team will initially establish the HOT LINE and accomplish rescue, first aid, limited decon, and fire control at the actual CAI site. Assistant Fire Chief at the site will give "detailed message".

(2) CAICO will assume control of Command Post (CP) and report situation to OC by radio/telephone.

(3) EMT will treat and evacuate casualties from the HOT LINE to NBC Aid Station.

(4) Security Forces will sweep hazard area, if necessary, to clear the area of personnel (non-casualties) and apprehend suspects if sabotage is suspected. Traffic Control Points (TCP's) will be manned to divert traffic from the hazard area and to secure the area.

(5) Assistant CAICO will assume control of operations at the actual CAI site and report his assessment of the situation to CAICO/OC by radio.

(6) NBC Team will assume control of the HOT LINE operations, establish personnel decontamination station, and proceed with survey operations.

(7) Operations Center will assume control of the operation as soon as manned. Area hazard assessments will be refined as additional information is received and revised evacuation/button-up or other emergency instructions will be disseminated as appropriate. Required reports will be submitted.

(8) Operation Center Personnel will provide guidance/ directions to assist CAICO rescue and containment tasks.

d. PHASE 4 - Render-Safe.

(1) The Assistant CAICO will coordinate, request, direct, and supervise the employment of all emergency response personnel at the CAI site and make appropriate reports required.

(2) Limited area and equipment decontamination will be accomplished by Dir/MMD Decontamination Team or FR&D Team.

(3) EOD Team, or other qualified specialist/individuals, will disarm and/or seal or otherwise render-safe suspect munitions or containers.

(4) Other support elements will provide required support.

(5) All required actions will be taken to render the area safe.

(6) CAI actions will be terminated only upon direction of the OC.

9. Special Instructions - Non-Military Commercial Chemicals:

a. The Department of the Army is not obligated to respond to chemical accidents or incidents involving non-military commercial chemicals of, or controlled by civilians, commercial concerns, or civil authorities. Assistance may be given civil authorities in the interest of public safety.

b. Civil authorities requesting assistance for non-military commercial chemical accidents will be referred to the National Response Center (Commercial Telephone 800-424-8802). (The National Response Center is a joint EPA-USCG Operations Center which coordinates response to civilian chemical incidents). The Army Operations Center (A-225-0441, ext. 215) will be notified, through FORSCOM, of the request for assistance from civil authorities. They will be provided as much information as is available concerning the request.

c. Civil authorities or private industry representatives requesting information about industrial chemical hazards/incidents will be referred to CEMTREC (800-424-9300).

d. When delays would endanger life or cause injuries, the installation commander is authorized to render assistance to prevent injury or death. An immediate report of actions taken will be telephoned, through channels, to the Army Operations Center.

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ANNEX C TO PBA-DCP

APPENDIX I (TASK ORGANIZATION) TO ANNEX C (CAICP) TO PBA-DCP

A. TASK ORGANIZATION

CAIC ASSIGNMENT	SOURCE	RESPONSIBILITY ASSIGNED TO	TAB
Chemical Accident/Incident Control Officer (CAICO)	Designated by CDR	CAICO	A
Asst Chemical Accident/ Incident Control Officer	Designated by CDR		
Alternate CAICO	Designated by CDR		
Alternate Asst CAICO	Designated by CDR		
Nuclear Biological Chemical Officer (NBCO)	Designated by CDR	NBCO	B
NBC Team	Headquarters Detachment	NBCO	
Off-Post Monitoring Team	PAD, Fac, Compt, QCO MISO, Safety, HQ CO	NBCO	
EOD Team	52d Ord Det (EOD)	CDR, 52d Ord Det (EOD)	C
Tech Escort Team	USATEU PBA-DET	OIC, TEU DET	M
Security Officer SAT, BAF, & RF (On-Post) ERT when required	Security Office	Provost Marshal	D
Conventional Security/ Building Entry Security Team (BEST)	Headquarters Detachment	Asst Adjutant	
Augmentation Reserve Force	FORSCOM	Dir/PRS&FD/Ch, Security Officies	
Emergency Medical Team	US Army Health Clinic	Chief Medical Officer	E
Fire Control, Rescue, & Decon Team	Fire Prev & Prot Div	Dir/FE	F
Operations Center Personnel	Cmd Sec, Dir/PRS&FD, PAO, Compt, Sec, Saf, E&T, JAG, MISO, Adj, ARF, USACC, *FE, SS*	Dir/PRS&FD	G

CAIC ASSIGNMENT (Cont'd)	SOURCE	RESPONSIBILITY ASSIGNED TO	TAB
Public Affairs Officer	Public Affairs Office Force Development Ofc	Public Affairs Officer	H
Claims Team	Judge Advocate, Chief, Photo Lab	Judge Advocate	I
Emergency Incident Control Officer (EICO)	Dir/MMD	Ref TAB J	J

5. CAIC TASK ORGANIZATION CHART -- See Figure 1, Page C-I-3.

C. Responsible Directors, Chiefs of Staff Offices, Officers and Team Chiefs of the CAIC Task Organization will:

1. Determine personnel and supplies required to accomplish assigned tasks. Initiate action to obtain required equipment and supplies in accordance with current procedures.

2. Insure that each person assigned to the CAIC Task Organization has the appropriate security/surety PRP clearances and is properly trained.

3. Maintain equipment in a high state of readiness.

4. Maintain roster of personnel to be notified upon receipt of STANDBY ALERT, ACTUAL CAI, or EXERCISE notification, with current duty and non-duty telephone numbers.

5. Conduct training and testing, as required to maintain teams in a high state of operational readiness.

6. Insure that alternates are designated and available to act in their capacity during their absence from the installation.

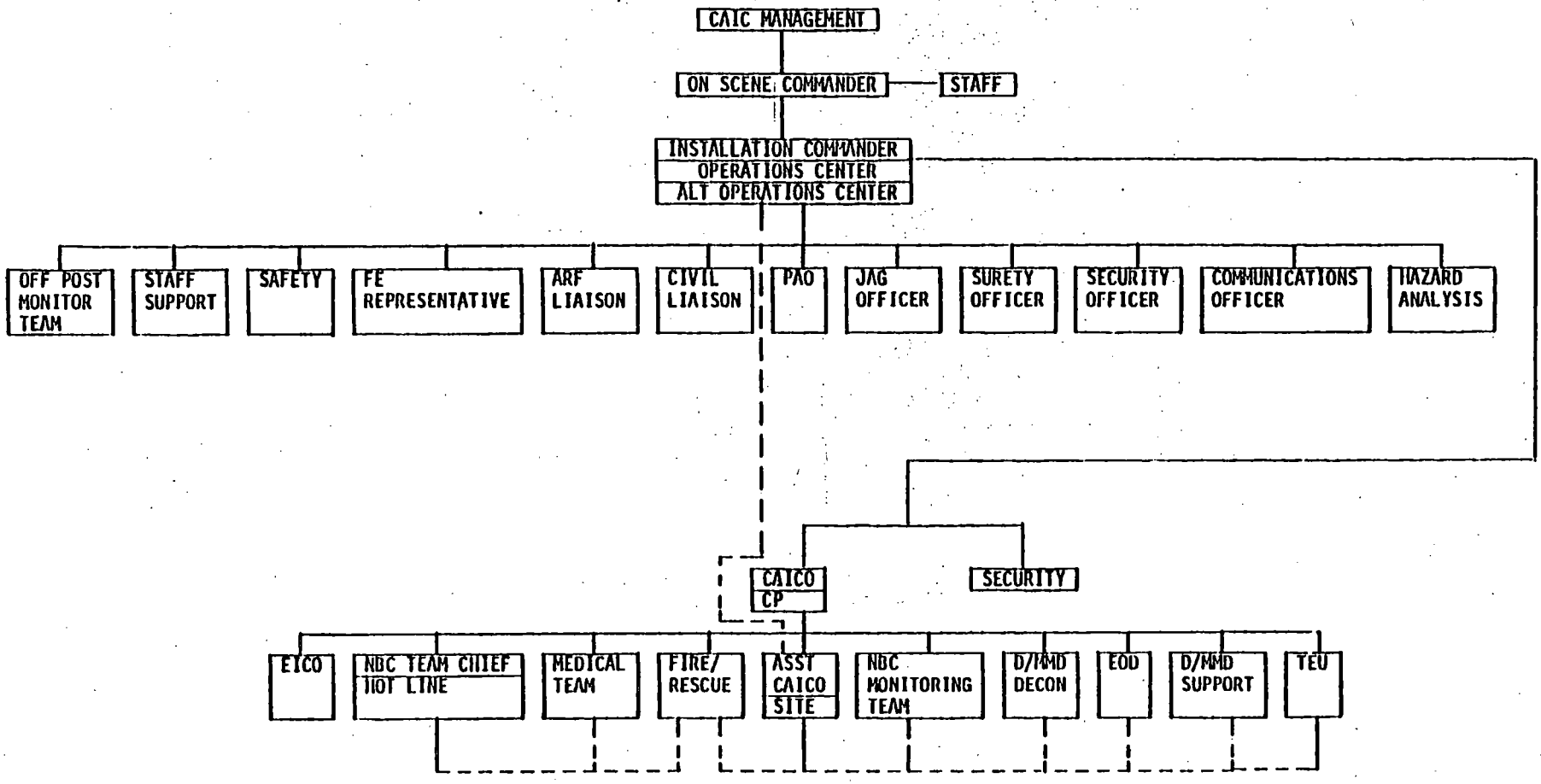
7. If the number of available personnel allows, divide teams into first response and reserve groups in order to allow around-the-clock operations, if necessary.

8. Insure that evidence pertinent to cause and effect of the accident/incident is preserved or recorded.

9. Prepare the respective TAB's to this APPENDIX and supporting SOP's, as necessary, to accomplish actions required by this plan.

SAFETY NOTE:

No elements of the CAIC Task Organization will depart to the scene of an OFF-POST accident/incident until dispatched by the Commander.



CAIC TASK ORGANIZATION CHART

FIGURE 1

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ANNEX C TO PBA-DCP

TAB A (CHEMICAL ACCIDENT/INCIDENT CONTROL OFFICER AND ASSISTANT) TO APPENDIX 1 TO ANNEX C TO PBA-DCP

1. ORGANIZATION: Refer to PBA Task Organization List at the beginning of this APPENDIX .

2. MISSION: To exercise control of all emergency teams/personnel at the scene of an accident/incident and supervise operations in the name of the Commander, PBA.

3. PREPARATORY ACTIONS:

a. Reference paragraph 7, Responsibilities.

b. On receipt of CAI FLASH RED GRENADE or STANDBY ALERT notification, notify alternates and assistants and direct the readiness posture required.

c. On receipt of on-post ACTUAL CAI or EXERCISE notifications.

(1) CAICO will immediately start monitoring CAIC net for situation information, verify location of CP with OC (consideration will be given to the security situation) and proceed to the CP. In event the emergency situation does not require an immediate response, report to the OC or other designated location and stand by for further directions.

(2) Upon receipt of notification, Assistant CAICO will start monitoring CAIC net and proceed to the CAI site as directed by the CAICO. If not, remain at a location coordinated with the CAICO and OC.

(3) Submit situation reports to the Operations Center.

d. On receipt of an off-post CAIC notification, report to the Operations Center, or specified location to receive Commander's instructions.

4. ACTIONS AT THE ACCIDENT/INCIDENT SCENE:

a. The CAICO will exercise control of all emergency forces and supervise operations at the scene, to include:

(1) Evacuation of casualties.

(2) Security and safeguarding of all surety and classified materials involved in the accident/incident.

(3) Surveys to determine actual and potential hazards.

(4) Actions to minimize the hazardous effects of a chemical accident or incident.

(5) Identification of required assistance/support to accomplish render-safe tasks.

(6) Submission of situation reports.*

(7) Public Affairs.* Although it is desired to cooperate with US news media representatives in accordance with AR 360-5 in event of off-post CAI, if classified material is exposed, inform them that 18 USC 793(d), 795, 797 makes it a criminal offense to photograph, publish. or refuse to surrender information of a classified nature. Utilize Public Information Officer in relation with news media representatives. Avoid use of force.

(8) Control and logistics support of observers and other authorized personnel at the scene of a chemical accident or incident.

(9) Claims.*

(10) Requests to local intelligence units for counter-intelligence inspections and surveys.*

(11) Relations with local civilian groups.*

(12) Control of classified material involved in the accident/ incident.

(13) Based on criteria furnished by appropriate US Government agencies, certification of clearance of contamination from the CAI site.

(14) Decontamination and disposal of contaminated material.

(15) In addition, the CAICO will:

(a) Utilize capabilities of operating pesonnel on advice and/ or consent of AREA EICO.

(b) Maintain radio contact with Assistant CAICO and OC. Keep the OC informed of all actions and to request additional resources when/if needed by the Assistant CAICO or other teams/personnel.

(c) Brief team chiefs as they arrive at the CP.

(d) Maintain appropriate maps, log sheets, and other administrative supplies to support operational requirements; have available protective masks, for personal use, an M 18 series detector kit, and radio equipped vehicle (or portable equipment) to facilitate emergency communications.

* Tasks so indicated will be accomplished through or by the OC when the CAI is on-post.

b. The Assistant CAICO will assume control of the CAI site and will:

(1) Make a visual assessment of the situation to determine extent of the hazard.

(2) Provide information to the CAICO and Operations Center on essential considerations including structural and munitions damage, contamination, and existing and potential hazards.

(3) Control all emergency operations including evacuation/ emergency treatment of casualties, decontamination, survey/detection containment actions and personnel control.

(4) In accomplishment of these duties, maintain Level A protective clothing for personal use and portable radio equipment to facilitate emergency communications.

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ANNEX C TO PBA-DCP

TAB B (NBC TEAM) TO APPENDIX I TO ANNEX C TO PBA-DCP

1. ORGANIZATION: The NBC Team organization is based on CAIC Mission and is prescribed in the supporting NBC Team SOP and the Off-Post Monitoring Team SOP.

2. MISSION:

a. Survey area to detect/estimate extent of contamination, establish hot line, and perform limited decontamination of personnel and equipment.

b. Monitor off-post areas to detect and identify chemical agents in event of a CAI hazard extends or threatens to extend into the civilian community.

3. PREPARATORY ACTIONS:

a. Reference paragraph 7, Responsibilities.

b. Prepare and maintain supporting SOP to this tab.

c. Upon receipt of CAI FLASH RED GRENADE or STANDBY ALERT, notification of team members will be made directing the readiness posture required.

d. Upon receipt of ACTUAL CAI or EXERCISE notification:

(1) ON-POST:

(a) Start monitoring CAIC net for situation information.

(b) Survey/monitoring team will be dispatched immediately to the CAI scene and report to CAICO for instructions.

(c) NBC Team will assemble and move to the established HOT LINE, or, when limited to standby, remain assembled and ready to immediately move out based upon the existing emergency. Team leader will notify OC when ready to depart NBC Team Building.

(2) Off-Post Monitoring Team will assemble and prepare for deployment as required by SOP. Dispatched points will be as directed by the Off-Post Monitoring Team Coordinator assigned to the Operations Center.

e. Establish notification procedure to insure rapid notification of designated personnel.

4. ACTIONS AT THE ACCIDENT/INCIDENT SCENE:

a. If off-post, and first military to arrive, arrange for security of the area, establish HOT LINE, then proceed as if on-post.

b. On-Post:

(1) On arrival at designated HOT LINE, report by radio to CAICO and establish Personnel Decontamination Station.

(2) Accomplish CAI site survey to determine nature and extent of contaminated and/or hazard area as directed by the CAICO.

(3) Assist in evacution of casualties across the HOT LINE.

(4) Assist in limited decontamination of personnel, equipment, and area.

(5) Control movement of personnel and equipment into and out of contaminated area.

5. ACTIONS OF OFF-POST MONITORING TEAMS: Actions of these teams will be under the overall direction and control of the NBCO or the designated Monitoring Team Coordinator. Monitoring Team will be dispatched to off-post locations based upon information made available by the OC, CAICO, or other command officials. Overall actions will be in accordance with Off-Post Monitoring SOP.

6. SUPPLIES AND EQUIPMENT: Prescribed in supporting SOP.

ANNEX C TO PBA-DCP

TAB C (EOD TEAM) TO APPENDIX I TO PBA-DCP

1. ORGANIZATION: The 52d Ordnance Detachment (EOD) is authorized one officer and ten EM and is under the parent command of US Army Forces Command. The Detachment is a tenant organization at PBA and will respond to a CAI upon request, if not already committed to another mission. Response to an on-post CAI by the EOD Team will be as a member of the PBA Task Organization under the direction of the CAICO/OC. Response to an off-post CAI by this organization will be as directed by Fifth US Army Force Command. Back-up or alternate EOD service, if required, will be requested from Commander, 546, EODCC, Fort Sam Houston, Texas.

2. MISSION: Perform established EOD functions.

3. PREPARATORY ACTIONS:

a. Reference paragraph 7, Responsibilities.

b. On receipt of CAI STANDBY ALERT, team will assume the readiness posture required by the type emergency. Notify OC when prepared to be deployed.

c. On receipt of Actual CAI or EXERCISE FLASH RED GRENADE notifications, immediately prepare to move to the CP and HOT LINE upon order of Commander. Establish communications with the CAICO.

4. ACTIONS AT THE ACCIDENT/INCIDENT SCENE:

a. Report to CAICO at CP.

b. Perform EOD functions as requested by CAICO and within capabilities.

c. EOD Team will accomplish assigned tasks in accordance with appropriate service publications and the provisions of this plan.

5. SUPPLIES AND EQUIPMENT: As prescribed through EOD command channels and local SOP's.

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ANNEX C TO PBA-DCP

TAB D (PHYSICAL SECURITY) TO APPENDIX I TO ANNEX C TO PBA-DCP

1. Organization:

Title	Number	Source
Chief, Security Office	1	Security Office
Deputy Chief, Security Office	1	Security Office
Security Forces:		
Security Alert Team (SAT)*	2 men each	Guard Force
Backup Alert Force (BAF)	3 men each	Guard Force
Reserve Force (RF)	10 men	Guard Force
Conventional Security/Building Entry Security Team (BEST)	6 men**	Headquarters Det.
Augmentation Reserve Force (ARF)	Company Size	FORSCOM***

2. MISSION: Reconnoiter the accident/incident area; coordinate with civil and military authorities; protect government property, and prevent unauthorized access into the Exclusion Areas.

3. PREPARATORY ACTIONS:

a. Reference paragraph 7, Responsibilities, and the Physical Security Plan.

b. Insure that equipment and supplies are prepositioned for immediate usage in mobile units, or that arrangements are made for their expeditious provision on request.

c. On receipt of CAI STANDBY ALERT or SECURITY ALERT, Security Teams and forces will assume the readiness posture required and initiate security measures appropriate to the situation and as directed.

d. On receipt of ACTUAL CAI or EXERCISE notification:

(1) Security Alert Team (SAT) will respond to the scene of the emergency and perform duties as directed by Guard Captain or Chief, Security Office.

(2) Backup Alert Team (BAF) will be deployed to the scene as directed by Guard Captain or Chief, Security Office.

(3) Reserve Forces (RF) will be deployed as directed by Guard Captain or Chief, Security Office.

* One SAT Team regularly assigned to BREA, and one SAT will also be assigned to the PA Laboratory if operations with agent exceeds on liter; if the quantity is less than a liter, an Emergency Response Team (ERT) will be assigned.

** Provided on an as-available basis.

*** Provided after notification. Notify Commander, DARCOM, of the request and circumstances that prompted it.

(4) Conventional Security/Building Entry Security Team will assemble as soon as possible at Guard Headquarters for deployment of assigned post. If accident/incident is off-post, Officer-in-charge (OIC) will report to Room 249, Administration Building, to receive briefing and instructions of the Commander. OIC will establish communications with the OC.

(5) The ARF, when dispateched, will function under operational control of the Arsenal Commander and will be deployed/utilized as directed by Chief, Security Office.

e. Chief, Security Office/or representative, will report to the CP and coordinate with the CAICO.

f. Deputy Chief, Security Office will report to the Operations Center (OC).

4. ACTIONS AT THE ACCIDENT/INCIDENT SCENE:

a. Insure that access to the accident/incident area is controlled.

b. Coordinate traffic control, physical security, and law enforcement matters.

c. Reconnoiter the area as directed to evacuate personnel from the hazard area and advise the CAICO on physical security matters (including control of classified material).

d. Maintain maximum security of the affected area, facilities, and munitions at all times.

e. If the accident/incident involves or is suspected to involve actual or attempted theft, seizure, or sabotage, the Chief, Security Office will:

(1) Recall required security forces.

(2) Dispatch patrols to cordon off escape routes.

(3) Institute search of area for missing munitions/agents containers.

(4) Order search of all vehicles leaving the installation.

(5) Apprehend and interrogate suspects in accordance with existing security procedures.

(6) In coordination with the Operations Center, alert and request assistance as needed from civilian police forces, the FBI, the CID, and the MI.

(7) Conduct a full investigation of the situation.

(8) Take steps to preserve or record all evidence pertinent to the emergency. This will include photographs (taken after "render-safe") and written statements considered appropriate to the security situation.

(9) Protect and/or recover classified weapons and components.

f. Any suspected loss of chemical surety materiel will be reported in accordance with TAB K, APPENDIX I, if the initial inventory efforts fail to reconcile discrepancies. Confirmation of inventory discrepancies will be reported immediately.

g. The OIC of the Convetnional Security/Building Entry Security Team will establish security post at:

(1) OC and Alternate OC.

(2) Administration Building and Engineering & Technology Building.

(3) Security Headquarters.

(4) Other, as directed.

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ANNEX C TO PBA-DCP

TAB E (EMERGENCY MEDICAL TEAM) TO APPENDIX I TO ANNEX C TO PBA-DCP

1. ORGANIZATION: Provided by the US Army Health Clinic.

Title	Personnel
Team Chief	1 - Chief Medical Officer
Assistant Team Chief	1 - As designated
"Medic One" Team	1 - Clinic NCOIC 1 - Medic
"Medic Two" Team	2 - Medical Personnel
NBC Aid Station	1 - Chief Medical Officer 1 - Other personnel as designated by Chief Medical Officer

2. MISSION: Provide emergency medical service, furnish technical guidance at the CAI scene, and accomplish medical staff functions as required.

3. PREPARATORY ACTIONS:

a. Reference paragraph 7, Responsibilities, and supporting Health Clinic SOP.

b. Upon receipt of CAI STANDBY ALERT, teams will assume the readiness posture required.

c. "Medic One" Team will proceed immediately to the CP upon the receipt of ACTUAL CAI or EXERCISE notifiction (unless directed to maintain a standby posture due to the existing emergency) and report to the CAICO. "Medic Two" Team will assist in the preparations at the USA Health Clinic NBC (Nuclear, Biological, and Chemical) Aid Station for receiving casualties and, upon orders of the Team Chief, move the remaining vehicle to the CP to receive additional casualties beyond the capabilities of "Medic One". Prior to departure to the HOT LINE, from the CP, the protective mask will be donned by EMT personnel.

d. When notified of an off-post CAI, the Team Chief will receive instructions from or as directed by the Commander.

4. ACTIONS AT THE CHEMICAL ACCIDENT/INCIDENT SITE: Administer essential medical care and evacuate casualties to the US Army Health Clinic NBC Aid Station.

5. CONCEPT OF OPERATIONS: The "Medic One" Team ambulance will normally be positioned upwind of the CAI site to avoid committal tc a contaminated area and the necessity of subsequent decon operations of equipment and personnel prior to evacuation of casualties to the US Army Health Clinic NBC Aid Station. The immediate Fire Rescue Team

will normally evacuate casualties from the ACTUAL SITE for transfer to the EMT teams at the established HOT LINE. In the event of absolute necessity, or when shielding by fire control equipment is possible, EMT Team Personnel and equipment may enter the contaminated area. Such instances require the Commander's approval, and decon capability must be present or other equipment made available by "Medic Two" Team prior to departure for the US Army Health Clinic NBC Aid Station. To assist in this effort, selected EMT personnel will be familiar with the usage of the Chemical Detection Kit in order that personnel and equipment can be monitored if necessary.

6. SPECIAL INSTRUCTIONS - OFF-POST: Off-Post response in support of this plan will be restricted to extreme emergencies. Where the nature of the installation accident/incident has, or could be expected to create hazardous conditions in the community. Medical personnel and equipment can be deployed to assist in executing urgent emergency procedures as directed by the Commander or in accordance with existing agreements. The installation CAICO will be in charge of any action off-post.

7. EMT EQUIPMENT AND SUPPLIES: An emergency service vehicle (EMS) and a patient transport vehicle (PTV) will be available and each will be equipped with a minimum of three blankets, one medical equipment set for chemical agent casualty treatment and other medical supplies considered necessary for treatment. Each team member will be provided a protective mask and protective clothing to comply with Level B requirements. A control map will be available in the vehicle to assist in responding to the emergency.

8. REQUIREMENT FOR CONSULTANT: The request for a Medical Consultant will be forwarded by the Chief Medical Officer to the Office of the Chief Surgeon, DARCOM. The Consultant will advise the OSC, CAICO, on medical health hazards, exposure level criteria, and casualty treatment procedures.

9. If medical report (RCS-MED 16) should be required as a result of a CAI, it will be submitted through the OC (if activated) and content will be coordinated with the OC. Safety Representative (Reference TAB K to APPENDIX I) prior to approval for dispatch by the Chief of the OC.

ANNEX C TO PBA-DCP

TAB F (FIRE CONTROL, RESCUE, AND DECONTAMINATION TEAM) TO APPENDIX I TO ANNEX C TO PBA-DCP

1. ORGANIZATION:

Title	Number
Fire Chief	1
Shift Supervisor	1
Immediate Reaction Fire Rescue Team	4
Tank Truck	1
Reserve Force	2

2. MISSION: Control fires, effect rescue, render life saving first aid, and perform limited decontamination.

3. PREPARATORY ACTIONS:

a. Reference paragraph 7, Responsibilities, and supporting SOP.

b. The Fire Chief will designate team chiefs and alternates.

c. On receipt of CAI STANDBY ALERT, teams will assume the readiness posture required.

d. On receipt of ACTUAL CAI or EXERCISE FLASH RED GRENADE notification:

(1) Immediate Reaction Fire Rescue Team will immediately move to actual CAI site unless prohibited by the emergency situation.

(2) Fire Chief will move to and establish initial HOT LINE at a selected upwind location in coordination with OC, if activated. This task may be delayed if the actual site of the accident has not been determined, or if prohibited by the existing security situation.

(3) Reserve Force will remain on standby at Fire Headquarters.

(4) Prior to moving, the protective mask will be donned and prior to crossing the HOT LINE, other required protective clothing will be donned.

4. ACTIONS AT THE ACCIDENT/INCIDENT SCENE:

a. Fire Chief will:

(1) Establish initial HOT LINE.

(2) Direct operations of Immediate Reaction Fire Rescue Team.

(3) Maintain radio communications with his personnel inside HOT LINE and with CAICO.

b. Shift Supervisor will:

(1) Assume command of CAI site until relieved by Assistant CAICO.

(2) Supervise/administer life saving first aid.

(3) Decontaminate personnel.

(4) Evacuate casualties to HOT LINE.

(5) Assess situation to determine extent of contamination and prevailing hazards and reported information to the Fire Chief.

(6) Maintain radio contact with Fire Chief.

(7) Transmit detailed message if only the FLASH RED GRENADE MESSAGE has been disseminated.

c. SPECIAL INSTRUCTIONS - ON-POST:

(1) Resources will be directed to control the most dominant emergency prevailing (i.e., assisting in treating injuries and evacuating personnel, fire control, maintaining "ready position" in event a more serious development could occur). A minimum number of personnel should be committed to the CAI site if contamination is reported or suspected.

(2) If explosions have, or could occur, exercise caution in the initial approach. The explosive hazard areas for chemical agents/munitions stored at Pine Bluff Arsenal is secondary to the control of the release of the agent and its adverse effects. Fires in an iglco(s) containing toxic agent will not be fought unless directed by the Commander or his representative.

(3) Personnel and equipment must be prepared to perform limited decontamination operations on personnel and equipment.

(4) Personnel must be prepared to administer life-saving procedures such as artificial respiration.

(5) Personnel must be prepared to perform individually in excecution of preventive and protection procedures for situation control in event of a CAI. This will require familiarity with effects of agents/munitions which are in storage or being manufactured at this installation.

d. SPECIAL INSTRUCTIONS - OFF-POST: Off-Post response in support of this plan will be restricted to extreme emergencies. Where the nature of the installation accident/incident has, or could, create hazardous conditions to the community, FPPD personnel and equipment can be deployed to assist in executing urgent emergency procedures directed by the Commander and as in accordance with existing agreements. The installation CAICO will be in charge of all off-post actions.

5. SUPPLIES AND EQUIPMENT: Normal deployment of equipment will be commitment of a station wagon and a 1000 gallon tank truck to the HOT LINE, and a one-half ton truck and a 750 gallon pumper truck to the CAI site. Each fire-fighting apparatus will be equipped with one self-contained breathing apparatus and each of the immediate reaction teams will be equipped with a hand-held portable radio. Individual members will be provided a protective mask and protective clothing.

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ANNEX C TO PBA-DCP

TAB G (OPERATIONS CENTER) TO APPENDIX I TO ANNEX C TO PBA-DCP

1. GENERAL:

a. The location of the primary PBA-OC is Room 249, Prentiss Hall (10-020), an ALternate OC is located in the Conference Room, Directorate of Engineering and Technology, Building 23-370.

b. The following work stations will normally be staffed during a CAI; however, the type/extent of the emergency and other considerations may necessitate staff variations. (NOTE: See Figure 1, APPENDIX I, for position location and organization):

(1) Commander.

(2) Surety Officer

(3) Security Officer

(4) Plotter - Control Maps

(5) Coordinator, Off-Post Monitoring

(6) Hazard Analyst

(7) FE Coordinator

(9) Communications Electronics Officer

(8) Augmentation Reserve Force (ARF) Liaison Representative (when appropriate)

(10) Civil Liaison

(11) Recorder - Situation Board

(12) Public Affairs

(13) Safety

(14) Claims

(15) SS Coordinator

(16) Administrative Support

(17) Net Control

(18) Admin Clerk

(19) Security/Entry Control

2. MISSION: Exercise overall coordination and control of the implementation and execution of the CAIC security, and other plans and operations.

3. PREPARATORY ACTIONS:

a. Reference paragraph 7, Responsibilities.

b. Personnel assigned Operations Center duties will be familiar with operating requirements and the instructions applicable to the assigned work station.

c. Communications equipment, meteorological instruments, and other fixed equipment, will be inspected/checked weekly to insure an operable condition. Where required, calibration will be accomplished.

d. Maintain appropriate maps and briefing boards to indicate on-post storage locations, travel routes, traffic control points, CP and HOT LINE locations, to indicate off-post community areas which could be within a downwind hazard; and to reflect the important aspects of the existing emergency.

e. Pre-position work station instructions, references, sample messages, log sheets, plotting equipment, directory of contacts, communications information, protective equipment, and other information/data considered necessary for command and control.

f. On receipt of CAI STANDBY ALERT, OC will be activated and OC personnel will assume the readiness posture directed by the Commander or the applicable movement or contingency plan.

g. On receipt of ACTUAL CAI or TEST EXERCISE FLASH RED GRENADE notification:

(1) ON-POST: ACTIVATE PRIMARY OC AND ALTERNATE OC.

(2) Off-POST: Activate OC, notify Commander, receive instructions, and notify and brief Team Chiefs as directed.

4. ACTIONS WHEN CAICP IMPLEMENTED:

a. Activate Secondary Alarm System to disseminate CAI notifications and other CAI messages as necessary to on-post elements, providing emergency instructions applicable to the situation.

b. Announce by radio on F1, F2, F3 and F4:

(1) Location of CAI.

(2) Agent and/or munition involved.

(3) Wind speed and direction.

(4) Temperature.

(5) Command Post location.

(6) HOT LINE location.

(7) Approach route for emergency teams.

(8) Follow-up CAI notifications and other pertinent CAI information on nets as deemed necessary.

(9) Initial downwind hazard area. Since this may not be immediately known or exist, it will be announced when discernible.

c. Estimate direction and extent of downwind hazard based upon information received from the site.

d. Telephone or radio on-post evacuation/button-up instuctions if conditions dictate.

e. Monitor radio traffic and log significant messages and events.

f. Accomplish plotting to depict situation on Master Control Map.

g. Coordinate off-post monitoring activities and plot results.

h. Effect off-post contact if events indicate a need for implementing mutual assistance agreements including off-post evacuation and/or assistance from external sources.

i. Be prepared to concurrently implement other emergency plans, if necessary and appropriate to the developing situation.

j. Coordinate the submission of required reports and information releases.

k. Accomplish entrance briefing for OSC and staff.

l. Not used.

m. Coordinate technical, logistical and administrative support of the OSC, CAICO, Assistance Teams from other organizations, and official observers.

5. SPECIAL INSTRUCTIONS:

a. Meteorological Data - When deemed essential for record, or for refinement of the hazard estimate, the wind speed and direction as recorded at Security Headquarters, Alternate OC, Security Site Control Center (SSCC), and Grider Field will be obtained and applied and/or incorporated in the record as appropriate.

b. Eyewitness Information - will be accumulated as received and recorded on the radio operator's log, telephone message forms, or other appropriate memo for incorporation in the official log.

c. Alternate OC - The Alternate OC will be activated when the Primary OC is operational. It will be staffed to the extent necessary to maintain required situation information in order to assume OC mission should the Primary become non-operational. If hazardous conditions preclude initial use of the OC in Building 10-020, or on order of the Commander, PBA, all OC personnel will report to and activate the Alternate OC located in Building 23-370.

d. Augmentation Reserve Force (ARF) Support - In case of emergency requiring employment of the ARF, the supporting installation will be contacted directly (refer to PBA-ARF Support (U) Plan for guidance). Headquarters DARCOM will be notified of the request, ATTN: DRCSS, during duty hours (Autovon 284-9714), or Staff Duty Officer during non-duty hours (Autovon 284-9223). Prepositioning of the ARF in anticipation of a threat will be coordinated through DARCOM, DRCSS. In a CAI, request for the ARF will be indicated in Item 15 of the appropriate Accident/Incident Report (see TAB K to APPENDIX I).

e. Obtaining Emergency Issue of Chemical Decontaminants - Requisitioning for the following material may be obtained from the sources indicated:

FEDERAL STOCK NO.	NOMENCLATURE	RQN SOURCE
4230-720-1618	DECON APPARATUS, ABC, M11, 1-1/2 QT	USAARRCOM
4230-907-4828	DECON & REIMPREG KIT, INDIV M13	USAARRCOM
6850-735-4827	REFILL, 1-1/3 QT CAN FOR M11	USAARRCOM
6850-753-4870	DS-2, 5-GAL DRUM	USAARRCOM
6810-233-1715	SODIUM CARBONATE, BAG 100 LBS	DGSC, RICHMOND
6810-174-6581	SODIUM HYDROXIDE, 100 LB DRUM	DGSC, RICHMOND
6810-255-0472	HTH-HTB, 100 LB DRUM	DGSC, RICHMOND
6810-598-7316	HOUSEHOLD BLEACH, 1 GAL	DGSC, RICHMOND

SOURCE LOCATIONS

Defense General Supply Center, Richmond, Va:

Duty and Non-Duty Hours: Emergency Support OPN CTR (ESOC)
AUTOVON ---------- 695-3881
Commercial ------ (703) 275-3881

######

US Army Armament Materiel Readiness Command, ATTN: Jim Fortney
(Staff Duty Officer for message relay during non-duty hours):
AUTOVON ---------- 695-4285/5757
Commercial -------- (309) 794-xxxx
SDO (on call) Ext 6001

f. Obtaining Assistance for Demilitarization - For the purpose of this procedure, emergency is defined as a situation where in a safe and secure environment cannot be maintained because of leaking agent.

An emergency response from USATEU would not be required when, for example, a leaking munition could be placed in a container and a safe and secure environment can be maintained. The Technical Escort Unit (TEU) will be telephonically notified that an emergency exists and will be provided:

(1) Nomenclature of item and/or agent involved and requiring the response.

(2) Name of individual(s) and phone numbers that can be used by TEU personnel should additional information be required. Requests will be coordinated with ARRCOM, ATTN: DRSAR-SR. TEU support requirements will be coordinated through the Operations Center. Upon arrival, the TEU will conduct an on-site assessment and brief the Arsenal Commander on actions required. The TEU will conduct an on-site assessment and the general control of the installation CAICO. Any higher headquarters approval actions required by the TEU will be acoordinated effort of the installation, the TEU, and Headquarters, ARRCOM.

g. Hazard Estimations:

(1) General:

(a) The Handbook for Chemical Hazard Prediction, dated March 1977, and the CSL Technical report, "Computer Program for Chemical Hazard Prediction/D2", dated May 1981, will be used as the basis to estimate downwind hazards. The ADP procedures will be used when possible.

(b) Adjustments in the downwind hazard distance estimates will be allowed in consideration of the wooded (forest) terrain factor. These adjustments will be used for both instantaneous and continuous sources.

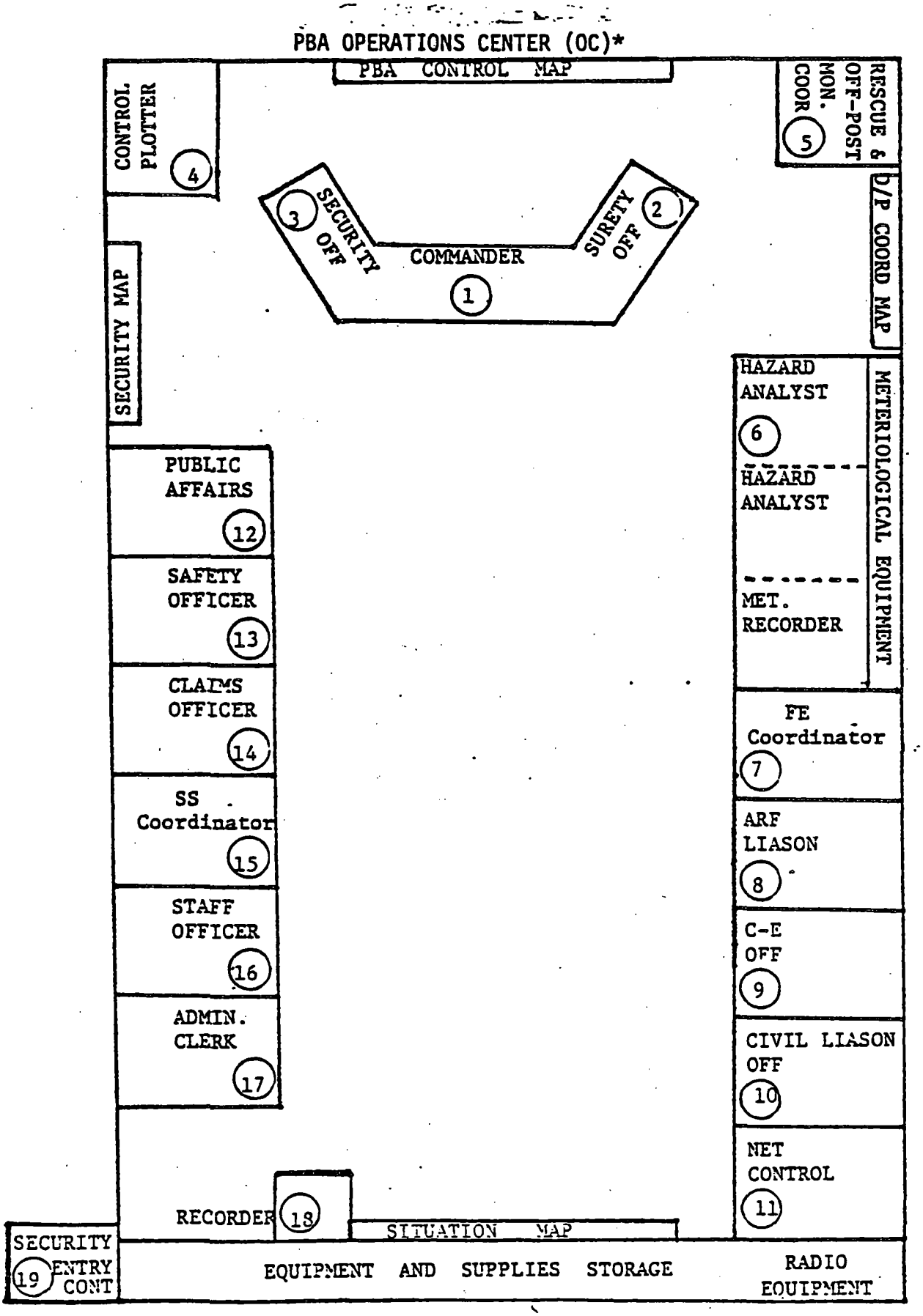
(c) Allowances in the downwind hazard estimate will be made when children are likely to be in the downwind hazard zones.

(2) In estimating downwind hazard distances, HT will be considered to have twice the toxicity of HD with all other parameters remaining the same.

(3) Adjustments will be made for changes in meteorological condition if they will have enough impact to exceed the boundaries of the previously computed zones or represent a significant reduction in the hazard to the general public.

h. When the Operations Center is activated for other than CAIC, staffing and procedures will be as appropriate for the emergency plan or procedure which is implemented.

FIGURE 1 (PBA OPERATIONS CENTER (OC)) TO APPENDIX I TO TAB G TO ANNEX C TO PBA-DCP



*Alternate PBA-OC has identical positions and similar layout

ANNEX C TO PBA-DCP

TAB H (PUBLIC AFFAIRS) TO APPENDIX I TO ANNEX C TO PBA-DCP

1. ORGANIZATION: In the absence of the PBA Public Affairs Officer, or a designated alternate, all inquiries concerning CAI will be referred to the Commander, PBA.

2. OBJECTIVES:

a. To provide the public with maximum information about the Department of Defense role, mission, and activities in connection with the execution of this plan, consistent with national security and provided the release of such information is not prohibited by this or other pertinent directives of instructions.

b. To insure that military and civilian personnel involved in the execution of this plan are oriented on the chemical accident or incident situation and on their duties, responsibilities, and relationship with local authorities, the general public, and news media representatives.

3. POLICY: Public affairs policy is to provide the public with prompt, responsive, and accurate information through cooperation with and service to news media representatives and local officials. News media representatives will be allowed freedom of movement provided there is no interference with the execution of the military mission and so long as safety and security requirements are met.

4. PROCEDURES:

a. When the exigencies of the situation allow, public information releases concerning a chemical accident or incident will be coordinated with the DARCOM Public Affairs Office (SDO during non-duty hours) prior to release. If the hazard estimate indicates that toxic effects will drift off-post, and immediate action is imperative to save human life, prevent human suffering, or mitigate destruction/damage to property, information considered essential to health and safety will be released on order of the Commander. Notification of higher headquarters and the dispatch of copies of the release will be accomplished after the more urgent local responses are completed (reference paragraph 8.c).

b. The release of information concerning chemical accidents and incidents, which occur off-post, will be made only by specific responsible officials. These officials are designated as:

(1) The responsible commander or courier appointed by the military department having physical possession of the chemical weapon or materiel or in control of the weapon or materiel at the time of the accident or incident.

(2) The commander of the military installation of facility nearest the accident scene, if the official designated in (1) above is not immediately available or physically capable of issuing such information.

c. CAIC personnel will be briefed at intervals of not more than six months on the provisions of AR 360-5 and any specific public affairs planning instructions pertaining to local situations. Personnel to be briefed will include, as a minimum, military and civilian security police and intelligence, operations, and public affairs elements.

d. The public is entitled to all unclassified information concerning an accident or incident. See sample release guides in inclosures to this Tab. The following release guidance procedure will be followed.

(1) If the accident or incident occurs on a military reservation: Release the story as soon as possible with as many details as possible. Withhold names of casualties until next of kin have been notified. State that the Army is investigating. Request that the State Police and other civilian law officers cooperate in withholding names until next of kin have been notified.

(2) If the accident or incident occurs on other than US Government property: Coooperate with media representatives. Help them get their story. Withhold names of casualties until the next of kin have been notified. Ask media representatives to cooperate on this point if they have obtained names prematurely. Release a factual story as soon as possible after the accident or incident, explaining that the accident or incident occurred and that the Army is investigating.

(3) Release of photcgraphs. Do not restrict civilian photcgraphers when the accident or incident is on other than US Government property. By all means, do not attempt tc cover up the stcry. The first military personnel or Department of the Army civilian personnel cn the scene should take appropriate steps to prevent the photographing of classified material.

(4) The Public Affairs Officer at the miltary installation or facility nearest the accident must establish telephone communications with the DARCOM Chief of Public Affairs (AV 284-8010/8012/8013, or Area Code 202-274-8010) as soon as possible after the accident or incident tc assure immediate assistance inexpediting answers to media queries. During off-duty hours, notify the DARCOM Duty Officer at AUTOVON 284-9223 , Area Code 202-274-9223 , to contact the DARCOM Chief of Public Affairs.

(5) For further detailed guidance concerning the release of information on a chemical accident or incident, see Chapter 10, AR 360-5.

(6) In order to expedite the flow of information concerning the accident or incident, the responsible commander or public affairs officer is authorized direct communication with the Chief of Public Affairs, DA, by the fastest means. Telephone numbers are AUTOVON 227-7589 or Area Code 212-697-7589. DATAFAX number is 227-6655. During off-duty hours, contact the OCPA duty officer through the Army Operations Center at AUTOVON 225-0441, ext 244, Area Code 202-695-0441, ext 244. The DARCOM Chief of Public Affairs will be notified of the direct communications as soon as practicable afterward and will be kept informed at all times. Telephone numbers are Area Code 202-274-8010 or AUTOVON 284-8010. During off-duty hours, contact the DARCOM Chief of Public Affairs through the DARCOM Duty Officer at AUTOVON 284-9223, Area Code 202-274-9223. DATAFAX number is 284-8382.

(7) The verbatim text of each news release concerning a chemical accident or incident will be submitted to the Officer of the Chief of Public Affairs, DA, ATTN: OCPA-PI, by the most direct and expeditious means. An information copy of each news release will be provided to the DARCOM Chief of Public Affairs, ATTN: DRCIN-PI.

(8) A brief analysis of the public affairs situation at the scene of the accident or incident will be submitted to the Chief of Public Affairs, HQDA (OCPA-PI) by the responsible commander or Public Affairs Officer, with an information copy to DRCIN-PI. This report should first be made by telephone as soon as practical after submission of required operational reports and be followed up with a written report."

5. PREPARATORY ACTIONS:

a. Reference paragraph 7, Responsibilities, and supporting SOP.

b. Upon receipt of CAI STANDBY ALERT, assume the readiness posture required.

c. Upon receipt of ACTUAL CAI or EXERCISE FLASH RED GRENADE notification:

(1) ON-POST: Report to Room 249, PBA-OC, or other location designated.

(2) OFF-POST: Report to Room 249, Administration Building, or other designated location for briefing and be prepared to move to the scene of the accident/incident when directed.

(3) Alternate PAO will report to the Alternate PBA-OC.

6. ACTIONS AT OFF-POST ACCIDENT/INCIDENT SCENE:

a. Serve as contact for commander with representatives of news agencies.

b. Insure that CAI Task Organization team members are instructed to make no comments to anyone concerning the CAI.

c. Insure that CAICO understands that only with the Commander's approval may news media representatives be granted access to the CAI site and photographs taken. If classified material cannot be covered or removed, photographs and/or sketches will not be permitted (see AR 360-5). Uncooperative media personnel and their supervisors will be informed concerning Federal criminal statutes (18 USC 793 (d), 795, and 797).

d. In event of uncooperative news media personnel, notify the Commander and report through information channels as prescribed in AR 360-5 and AR 55-56.

e. The News Release for accidents involving chemical material (Inclosure 1 or 2) may be released in accordance with the provisions of AR 360-5 and AR 50-6.

1. ACTIONS UPON IMPLEMENTATION OF THIS PLAN FOR ON-POST CAI:

a. Serve as contact for inquiries from representatives of news agencies.

b. Make required reports.

c. When safety considerations require public announcement of the fact that chemical materials have been involved in an on-post accident, Inclosure 3 or 4 may be used as a guide in the preparation of news releases in accordance with AR 360-5 in conjunction with the provisions of APPENDIX C to the DARCOM Supplement to AR 50-6.

3. SPECIAL INSTRUCTIONS:

a. Information concerning persons killed or injured will only be released if authorized under provisions of AR 360-80.

b. Only the minimum essential release of information will be made.

c. In event of the necessity to effect an immediate release of information concerning a chemical accident in accordance with paragraphs 3 and 4, this Tab, contacts listed below will be notified, by the most expeditious means available, of the contents of the news release, the circumstances of the accident/incident and actions taken:

(Submit required reports after coordinating with Safety Representatives and other OC command/control personnel to insure that no conflicting statements concerning the CAI situation are reported to HHQ (reference TAB K to APPENDIX I).

*(1) Office of Chief of Public Affairs (OCPA), AUTOVON 227-7589.

*(2) Public Affairs Office, USA DARCOM, AUTOVON 284-8010/8012/8013.

(3) Public Affairs Office, USA ARRCOM, AUTOVON 793-5421

(4) FORSCOM PAO through FOC, AUTOVON 598-3222

Message confirmation of above notifications will be prepared when time allows and Fifth Army NCAICC and CG, TRADOC will be added as addressees. During non-duty hours only the OCPA Duty Officer (AUTOVON 225-0441, Ext. 240), DARCOM Duty Officer (AUTOVON 284-9223), and ARRCOM Duty Officer (on call, AUTOVON 793-5621 (Opr)) required telephonic notification.

d. When exercises are conducted, no public announcement or news release will be made. In event it becomes necessary to answer queries, the following information will be furnished:

"A routine test of plans regarding actions to be taken resulting from a crash of a US vehicle or aircraft and a resultant high explosive detonation (is being, has been) carried out at (location). Such testing is routine in nature and is conducted to determine the adequacy of emergency plans, the ability of the personnel to respond properly, and to insure that equipment is functioning properly and is adequate to perform the simulated task."

*During off-duty hours, notify the OCPA through the AOC-AUTOVON 225-0441-X240, and the Duty Officer at DARCOM, AUTOVON 284-9223

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ANNEX C TO PBA-DCP

INCLOSURE 1 (PUBLIC ANNOUNCEMENT NO. 1) TO TAB H TO APPENDIX I TO ANNEX C TO PBA-DCP

(Sample news release to be used when danger to the public does not exist. No chemical surety materiel has been released, and the security classification of the materiel is not compromised, but the confirmation of the presence of chemical surety materiel will have a significant value in maintaining public order and preventing or reducing widespread alarm.)

NEWS RELEASE

"A United States Army (train or other vehicle) carrying chemical materials accidentally (derailed, crashed, or other circumstances) at approximately (time) near (location).

Although danger from the (derailment, crash, leakage, etc.) is remote, to facilitate removal operations, visitors are asked to stay out of the area under surveillance by guards until the cargo has been removed. There is no need for evacuation. All containers have been accounted for and none is leaking."

NOTICE TO THE PRESS

The information in the above news release is all that the releasing officer is authorized to release at this time. As further information develops, it will be made available from the Office of the Chief of Public Affairs, Department of the Army, Washington, DC.

ANNEX C TO PBA-DCP

INCLOSURE 2 (PUBLIC ANNOUNCEMENT NO. 2) TO TAB H TO APPENDIX I TO ANNEX C TO PBA-DCP

(Sample news release to be used if public safety considerations require announcement that chemical surety materiel has been involved in an accident or incident and that a chemical agent may have been released.)

NEWS RELEASE

"The (railroad, truck, maritime, or aircraft) accident which occurred at _____ o'clock today (or day of week) at (or near) (name of town or route number and direction and distance from town), may have resulted in the escape of chemical materials which were being transported for the United States Army with Congressional authorization. Trained chemical (escort) personnel (were accompanying the shipment and are currently rendering) (have been dispatched from (location) to render) the shipment harmless. Precautions have been taken to insure that local citizens are not exposed.

Military guards (and/or police) have been stationed to prevent entry into the area of possible danger. (Evacuation of this area was necessary for the welfare of the community because of wind and weather conditions which could cause spread of the chemical materials.) There is no danger, however, outside the guarded area. (The public is urged to remain outside the area bounded on the north by _____, on the east by _____, on the south by _____, and on the west by _____.) Sightseers will hamper the work of the cleanup crew and may get into a possible danger area. A public announcement will be made when all hazardous materials have been removed or rendered harmless by the expert technicians. Following is a list of names and addresses of military personnel who were killed or injured in the (derailment, collision, upset) (release only if authorized under the provisions of AR 360-80):"

NAME, GRADE, AGE ADDRESS STATUS OTHER AVAILABLE DATA

NOTICE TO THE PRESS

The information in the above news release is all that the releasing officer is authorized to release at this time. As further information develops, it will be made available from the Office of the Chief of Public Affairs, Department of the Army, Washington, DC.

ANNEX C TO PBA-DCP

INCLOSURE 3 (PUBLIC ANNOUNCEMENT NO. 3) TO TAB H TO APPENDIX I TO ANNEX C TO PBA-DCP

NEWS RELEASE

"The (railroad, maritime, truck, aircraft, or other) accident which occurred at approximately (time) today (_____installation) may have resulted in the release of hazardous material which was being (transported, tested, stored, or manufactured) for the US Army.

Trained (chemical and medical personnel) at the installation were on hand immediately to insure that the material was rendered harmless and safety officials at the installation have sealed off the area of possible danger.

The accident took place in the (building, laboratory, test site, storage area) where (installation personnel test, receive, store, or prepare material for shipment) (the material was being transported by truck or rail).

Evacuation of the designated area of possible danger was not considered necessary (was necessary for the welfare of installation employees because of wind and weather conditions which could cause spread of the material). There is no danger, therefore, outside the designated area. However, precautions have been taken to insure that local citizens are not exposed, and the public is urged to remain outside the area bounded on the north by _____, on the east by _____, on the south by _____, on the west by _____. A public announcement will be made when these precautionary measures are no longer deemed necessary.

(A board of inquiry has been appointed to determine the cause of the accident.)

Following is a list of names and addresses of military and civilian personnel who were killed or injured in the (derailment, collision, upset)(release only if authorized under provisions of AR 360-80)."

NAME, GRADE, AGE ADDRESS STATUS OTHER AVAILABLE DATA

NOTICE TO THE PRESS

The information in the above news release is all that the installation commander is authorized to release at this time. As further information develops, it will be made available from the Office of the Chief of Public Affairs, Department of the Army, Washington, DC.

ANNEX C TO PBA-DCP

ENCLOSURE 4 (PUBLIC ANNOUNCEMENT NO. 4) TO TAB H TO APPENDIX I TO ANNEX C TO PBA-DCP

(Sample news release to be used for accidents involving chemical surety materiel occurring on an installation where the chemical agent drifts off the installation.)

NEWS RELEASE

"The (railroad, maritime, truck, aircraft, or other) accident which occurred at approximately (time) today at (_____installation) may have resulted in the release of hazardous material which was being (transported, tested, stored, or manufactured) for the Army.

Trained (chemical and medical) personnel at the installation are on hand and are currently rendering the material harmless.

The accident took place in the (building, laboratory, test site, storage area) where (installation personnel test, receive, store, or prepare material for shipment) (the material was being transported by truck or rail.)

Evacuation of the designated area was considered necessary for the welfare of installation employees because of wind and weather conditions which caused possible spread of materials off the installation. To insure that local citizens are not exposed, actions have been taken to evacuate an area outside the installation bounded on the north by _____, on the east by _____, on the south by _____, and on the west by _____. The public is urged to stay outside that area. Sightseers will hamper the work of the cleanup crew and may get into a possible danger area. A public announcement will be made when the hazard no longer exists.

(A board of inquiry has been appointed to determine the cause of the accident.)

Following is a list of names and addresses of military and civilian personnel who were killed or injured in the accident (release only if authorized under the provisions of AR 360-80):"

NAME, GRADE, AGE ADDRESS STATUS OTHER AVAILABLE DATA

NOTICE TO THE PRESS

The information in the above press release is all that the installation commander is authorized to release at this time. As further information develops, it will be made available from the Office of the Chief of Public Affairs, Department of the Army, Washington, DC.

ANNEX C TO PBA-DCP

INCLOSURE 5 (ADDENDUM) TO TAB H TO APPENDIX I TO ANNEX C TO PBA-DCP

The following is extracted for additional special instructions from the DARCOM Supplement 1 to AR 50-6, 5 May 1977. Discrepancies between this and the AR requirements for telephonic notifications have been reconciled in paragraph 7c, this Tab.

"1. When the hazard estimate (Handbook for Chemical Hazard Prediction, dated March 1977) indicates that the toxic effects of a chemical accident or incident will extend off-post, the installation commander will inform the public through appropriate civil authorities and/or news media. Any information that is designed to reduce undue public concern, and is considered essential to health and safety may be released, i.e., the type of agent involved, symptoms of agent exposure, first aid procedures, and medical facilities to which casualties may be evacuated. In addition, when a chemical accident or incident occurs and the effects are confined to the post, but the effects are of such severity that the accident or incident will become a matter of public knowledge and concern.

2. Coordination of the content of public information releases with Headquarters, DARCOM Public Affairs Officer (HQ DARCOM SDO during non-duty hours) is not required when immediate action is imperative to save human life, prevent human suffering, or mitigate destruction/damage to property. When such immediate action is not necessary, coordination is required with Headquarters, DARCOM. Headquarters, DARCOM and the commander of the appropriate Army area will be notified telephonically as soon as possible, followed by confirmatory message. DA Office of Public Affairs and Commanders, FORSCOM and TRADOC, will be added as addressees when message confirmation of the release is prepared.

3. It is recognized that certain accident or incident conditions may exist (such as a cargo vehicle fire in an on-post movement of chemical munitions or a sabotage event) which could preclude precise knowledge of the number or condition (burned, exploded, ruptured) of the munitions involved. In the examples described, lack of data to compute the downwind hazard precisely might occur, because explosive fires may not be safely approached or because the act of sabotage may already have been accomplished. Consequently, the commander must base his/her emergency actions (news releases, evacuation, etc.) on the best estimate of the agent hazard involved, and be prepared to revise his/her response as additional information from the site becomes available.

4. When a commander determines that evacuation of the hazard area is not possible utilizing the resources available within the time remaining prior to arrival of the toxic hazard, he/she may take other courses of action to alleviate the situation. For example, he/she may recommend to the local news media and authorities that all personnel in the hazard area remain inside building, and vents, fans, and air conditioners should be closed or shut off. When the toxic

cloud has passed and it has been determined by appropriate survey and detection that it is safe, personnel should be instructed to depart the buildings to preclude exposure to agent which might accumulate within the building and to facilitate accounting for potential casualties."

ANNEX C TO PBA-DCP

TAB I (CLAIMS TEAM) TO APPENDIX I TO ANNEX C TO PBA-DCP

1. ORGANIZATION: Post Judge Advocate will serve as Claims Officer and will be assisted by a photographer from PACSO and a clerk. Backup for claims service is available from Fort Polk, Louisiana.

2. MISSION: Provide legal advice to CAICO and accumulate evidence to facilitate prompt processing of civilian claims against the United States Government arising from an accident/incident involving chemical weapons/materials in the custody of PBA.

3. PREPARATORY ACTIONS:

a. Reference paragraph 7, Responsibilities, and SOP No. SARPB-JA-1.

b. Effect liaison with Judge Advocate, Fort Polk, Louisiana, to assure Claims Team Support if DARCOM should be unable to provide such support.

c. Upon receipt of CAI STANDBY ALERT, Claims Officer and photographer will assume the readiness posture required.

d. Upon receipt of ACTUAL CAI or EXERCISE FLASH RED GRENADE notification, notify other members of Claims Team to assemble or standby for further instructions.

e. Report to Room 249, Administration Building, to receive briefing and, if off-post, instructions of the Commander.

4. ACTIONS AT THE ACCIDENT/INCIDENT SCENE:

As directed by CAICO make a comprehensive survey of all property damage and personal injury resulting from the CAI. The Claims Officer will prepare reports of investigation, based thereon, pursuant to normal claims procedures. Photographer will photograph scenes that might be used as evidence and accomplish other photographic tasks required for completion of record of events.

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ANNEX C TO PBA-DCP

TAB J (DIRECTOR OF MATERIEL MANAGEMENT AND DEMILITARIZATION (EICO)) TO APPENDIX I TO ANNEX C TO PBA-DCP

1. ORGANIZATION: Reference paragraph 7, Responsibilities.

2. MISSION: Direct operations to control or minimize hazards of a CAI until relieved by CAICO. Provide technical advice and assistance to CAICO and required emergency personnel/teams.

3. PREPARATORY ACTIONS:

a. EICO will advise Dir/PRS&FD about/concerning readiness posture required if a CAI STANDBY ALERT is to be initiated.

b. When EICO is not at the site of a chemical accident/incident, he will upon receipt of ACTUAL CAI or TEST EXERCISE notification, report to the CP, or as directed by the OC or CAICO, and assist in arranging for commitment of emergency teams/personnel/equipment.

4. ACTIONS AT THE ACCIDENT/INCIDENT SCENE:

a. Provide technical advice and assistance to CAICO at the CP.

b. If at the actual accident/incident site when it occurs:

(1) Contact Fire Alarm Watch Desk (X 3500) and report as "first knowledgeable person" (reference Appendix II).

(2) Effect rescue of casualties, if possible, and withdraw all personnel to a safe distance.

(3) Direct actions to control or minimize hazards until relieved by Assistant CAICO.

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ANNEX C TO PBA-DCP

TAB K (SAFETY AND REPORTS COORDINATION) TO APPENDIX I TO ANNEX C TO PBA-DCP

1. ORGANIZATION: Chief, Safety Office, or a designated alternate, will man the Safety Officer's work station upon activation of the Operations Center.

2. MISSION:

a. Provide staff guidance on safety matters to the Commander, and CAIC Officials.

b. Submit necessary safety reports to HHQ.

c. Review other reports required by or related to the CAI situation in coordination with responsible reports preparation officials to assure consistency of information reported to various HHQ contacts.

3. POLICY GUIDANCE:

a. Reporting made necessary by occurrence of a CAI will be submitted as prescribed by AR 50-6 and other governing directives.

b. The exigencies of the situation may dictate that other emergency response actions take precedence over "immediate" reporting requirements. After such actions are accomplished, reporting will be initiated as soon as possible.

c. CAI reporting requirementts have been determined exempt from reports control under provisions of AR 335-15.

d. Telephonic and electrical transmission of these reports will continue under MINIMIZE.

4. RESPONSIBILITIES:

a. Safety Representative will prepare and submit safety reports and will advise other officials concerning content of reports addressed in this Tab prior to approval for dispatch by the Chief of the OC.

b. Officials responsible for any related reports such as those indicated below will obtain concurrence from the Safety Representative on any CAI situation information to be reported.

(1) Public Affairs Officer -- News releases and subsequent reporting required by AR 360-5, App C to DARCOM Supplement to AR 50-6, and Tab H to this Appendix.

(2) Chief Medical Officer -- Medical Reports.

(3) Chief, Security -- Serious Incident Reports.

(4) Chemical Surety Officer -- Emergency Disposal of Chemical Munitions.

(5) Director/PRS&FD -- Commanders Emergency Situation Report (EMREP) if required under provisions of PBA-DCP.

5. PROCEDURES:

a. Chemical Accident/Incident Report

(1) CAI Reports submission during normal duty hours will be accomplished by the Chief, Safety Office or his designated representative. During non-duty hours, the SDO or other designated individual may submit preliminary reports.

(2) Reporting will not be delayed solely to determine accident or incident delineation. Prior to such determination, reports may be identified as Preliminary CAI Telephonic Reports.

(3) If exercise messages are dispatched to higher headquarters, such messages will begin and end with "This is a Test (or Training) Exercise Message".

(4) When the preliminary telephonic notifications are made it is unlikely that a determination will have been made as to whether the event is an Accident or an Incident. Follow-up telephonic reports will be made to forward additional information within two hours of original message. The follow-up reports will be identified as either an Accident Report or Incident Report with the appropriate RCS.

(5) The oral (telephonic) Chemical Accident or Chemical Incident Report will be confirmed by electrically transmitted message (TWX) as soon as possible. Follow-up TWX reports will be dispatched as of 1600 hours daily (including negative reports if applicable) until the final report is submitted.

(6) Inclosure 1 is a copy of the prescribed format for both oral and TWX CA/CI Reports. This format will be used to the extent of item applicability and information availability. Telephonic contacts and TWX addressees are listed in inclosures 2 and 3. The Chief, Safety Office may alter format and submission of safety reports as necessary for compliance with latest safety reporting requirements.

b. Medical Reports (RCS MED-16): If occupational illnesses of DA military or civilian personnel result from a CAI, medical reports as prescribed in AR 40-428 will be submitted through the OC (if activated).

c. Serious Incident Reports will be prepared in accordance with AR 190-40 which requires reporting of any chemical accident/incident as a Category I Serious Incident if, because of the sensitivity or nature of the incident, publicity, embarrassment, or other considerations, it should be brought to the immediate attention of HQDA. Such reports will not be submitted if duplicative of CAI reports but if an intrusion, attempted intrusion, or other unexpected degradation of the security of the chemical storage areas is involved, the local FBI and MI will be immediately notified. All SIR's will be transmitted directly to HQDA, ATTN: DAPE-HRE (DRCSS as info) by electrical message in the following format (NOTE: Immediate telephonic reports required for Category I with minimum basic information as to "who, what, when, where, how" with supplemental telephonic reports submitted as information is available).

(1) Category of Incident

(2) Type of Incident

(3) Date/Time of Incident

(4) Location

(5) Racial

(6) Personnel Involved

(7) Summary of Incident

(8) Remarks

(9) Publicity

(10) Commander Reporting

d. Emergency Disposal of Chemical Munitions (RCS: CSGPA-1560): In event emergency disposal is required to protect health and safety, HQ DA (DAMO-NCC) has provided the following interim guidance pending revision of AR 50-6.

"Subject: Emergency Disposal of Chemical Munitions-Reporting Procedures.

A. AR 50-6
B. AR 75-15

1. Actual or suspected chemical munitions/containers requiring emergency disposal will be reported to HQDA utilizing the procedures below (Para 5-9C, Ref A). Emergency disposal is authorized by 50 U.S.C. 1517. Only in those situations in which compliance with the provisions of 50 U.S.C. 1512 would clearly endanger the health or safety of any person.

A. Immediate - By telephonic means to HQDA (DAMO-NCC)
(1) Duty Hours: AV 225-3541; COMM (202) 695-3451.
(2) Non-duty hours: AV 225-0441, Ext 215; COMM (202) 695-2769.

B. Follow-up (1 duty day) - electronically transmitted message(s).
(1) Action addressees: HQDA//DAMO-NCC//
(2) Info addressees: HQDA//DAPE-HRS/DALO-SMD//
CDRUSANCA//MONA-SU//

2. Report(s) will include the following information, as available:
A. Location;
B. Type munition/container;
C. Munition/container condition, e.g., fuzing;
D. Known/Suspected agent fill;
E. Explanation of circumstances/conditions requiring emergency disposal, and alternative considered, if any) Para 3-4, Ref B);
F. Method of disposal and earliest date which disposal will be accomplished;
G. Coordination to be effected with local and state officials;
H. Security measures taken.

3. Above reporting procedures are not intended to preclude emergency disposal, not be interruptive of actions required to protect health and safety.

4. Reporting procedures for emergency disposal of actual or suspected chemical munitions will be included in the next revision to Ref A.

5. HQDA POC is MAJ C.G. Shaw, DAMO-NCC, AV 227-6600."

ANNEX C TO PBA-DCP

INCLOSURE 1 (CHEMICAL ACCIDENT/INCIDENT REPORT FORMAT) TO TAB K TO APPENDIX I TO ANNEX C TO PBA-DCP

HEADER

CHEMICAL ACCIDENT REPORT (RCS DD-M (ARO 1020)
ON
CHEMICAL INCIDENT REPORT (RCS CSGPA-1560)

BODY

1. Date and time of event.

2. Location.

3. Quantity and type of weapon(s) or container(s) and chemical agent(s).

4. Description of property damage and personnel casualties.

5. Type of carrier - if one is involved.

6. Type of operation (e.g., laboratory analysis, surveillance testing, logistical movement, storage inspection, alert, maintenance/renovation, or demilitarization).

7. Description of event.

8. Whether a weapon or container burned, detonated (to what degree), or was exposed to fire.

9. Details of any existing chemical hazard or contamination.

10. Condition of chemical weapon or container.

11. Whether news release was given to the media. If so, attach copies to the report.

12. Measures taken to ensure safety and security.

13. Any other pertinent information, including cause factors, if known, and any possible political implications.

14. State corrective actions recommended, if appropriate.

15. Assistance required (e.g., Augumentation Reserve Force (ARF), Explosive Ordnance Disposal (EOD), On Scene Commander (OSC)).

ANNEX C TO PBA-DCP

INCLOSURE 2 (TELEPHONIC CONTACTS FOR CHEMICAL ACCIDENT/INCIDENT REPORTS) TO TAB K TO APPENDIX I TO ANNEX C TO PBA-DCP

1. DRSAR-SF -- Immediate.

(C) 309-794-6982/6989
(A) 793 + Extension Above
Non-duty hrs (SDO) x 6001

2. DRCSF-S -- Immediate.

(C) 202-274-9475/9469
(A) 284 + Extension Above
Non-duty hrs (SDO) ext 9223/9224

3. DRXOS-C -- Immediate
(A) 366-7426

4. AOC -- AR 385-4 requires reporting of accidents within 3 hours. AR 50-6 requires immediate reporting. Incidents are to be reported to AOC only in event of theft or loss of chemical surety material or penetration of a chemical exclusion area. Immediate reporting of such incidents is required.

(C) 202-695-2769
(A) 225-0441 ext 215

5. USATHAMA -- After above calls are made, if the CAI occurred during demilitarization of chemical items.

(C) 301-671-2828/2270
(A) 584 + extns above
Non-duty hours -- extn 6100

NOTE: Obviously, not every element that requested and was granted "immediate" notification status can be first!

ANNEX C TO PBA-DCP

INCLOSURE 3 (ADDRESSEES FOR ELECTRICALLY TRANSMITTED (TWX) CHEMICAL ACCIDENT/INCIDENT REPORT) TO TAB K TO APPENDIX I TO ANNEX C TO PBA-DCP

Generally, the action or primary addressee will be the next higher command (ARRCOM) contact with others added as information addressees as indicated below.

CDR ARRCOM ROCK ISLAND IL//DRSAR-SFD//
HQDA WASH DC//DAPE-HRS//
HQDA WASH DC//DAMO-NCC//
HQDA WASH DC//DASG-PSP//
HQDA WASH DC//DAPE-HRE//
US ARMY NUCLEAR 7 CHEMICAL AGENCY, FORT BELVOIR, VA 22060
CDR DARCOM ALEXANDRIA VA//DRCSF-S//
CDR DARCOM, FSA//DRXOS-C
CDR FORSCOM FORT MCPHERSON GA//AFOP-TS//
#CDR USA FIVE FT SAM HOUSTON TX//AFKB-01-E//
#CDR USA FAC FT SILL OK//ATZR-DPTPON//
##CDR DARCOM ALEXANDRIA VA//DRC SS/DRCNC//
##CDR ARRCOM ROCK ISLAND IL//DRSAR-SS/DRSAR-SR//
###HQDA WASHINGTON DC//DAIG-SD//
####USATHAMA ABERDEEN PROVING GROUND MD//DRXTH-TS//

##Added if theft or loss of chemical surety material or penetration of exclusion area involved.

###If directed by HHQ

####If demil opns involved

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ANNEX C TO PBA-DCP

TAB L (GENERAL OFFICER ON-SCENE COMMANDER) TO APPENDIX I TO ANNEX C TO PBA-DCP

1. REQUIREMENT FOR GENERAL OFFICER ON-SCENE COMMANDER:

A. This Appendix is based on Appendix I to Annex C to the ARRCOM-DCP. There are various categories of chemical accidents and incidents ranging from catastrophic accidents in which the public is exposed to hazardous quantities of chemical agents to errors committed in handling operations that might have resulted in exposure of unprotected personnel. The requirements for an On-Scene Commander will vary with the circumstances of the accident. In the absence of a specific DA directive to do so, the decision as to when and under what circumstances to dispatch an On-Scene Commander rests with the CDR, DARCOM.

b. The On-Scene Commander's responsibilities are oriented toward accident and incident control, including command and control of outside forces furnished for assistance, dealing with the public and the press, and safe removal of hazardous material. There is also the intangible benefit to the Army's image of indicating to the public, as well as other government agencies, its concern for chemical safety, by the assignment and presence of a general officer as OSC when required.

2. CONDITIONS REQUIRING A DARCOM OSC: A DARCOM general officer On-Scene Commander Designate will be appointed OSC by the Commander, DARCOM, and will normally be dispatched to a CAI scene in event of conditions indicated below.

a. A situation involving chemical surety materiel which results in:

(1) An unintentional or uncontrolled release of a chemical agent where the quantity of agent released to the atmosphere is such that a potential exposure to unprotected personnel exists.

(2) A requirement for support from non-DARCOM sources (other than normal EOD support), (e.g., the designated Augmentation Reserve Force, (ARF)).

(3) Off-post non-military personnel becoming/being directly involved in the CAI.

(4) Off-post contamination by a chemical agent.

(5) Unusual interest by the public news media.

b. When directed by HQ DA or the Commander, DARCOM, for conditions other than those stated above.

3. AUTHORITY: The On-Scene Commander is delegated full line authority of the CDR, DARCOM, in fulfilling his mission and functions as described below.

4. COMMAND AND STAFF RELATIONSHIPS:

a. The general officer On-Scene Commander reports directly to the CDR, DARCOM.

b. He is authorized direct communication with any element of ARRCOM, DARCOM, FORSCOM, or TRADOC, in securing the emergency support required for accomplishing his mission.

c. Except as otherwise provided by Army Regulations or other instructions, the OSC is authorized such direct contact with civilian organizations and other Government agencies as may be required to accomplish the mission.

d. The OSC may be provided a staff selected from HQ, DARCOM activities. Packets of reference publications and documents will be hand carried to the CAI scene by the OSC's staff members.

5. MISSION AND FUNCTIONS: The mission and functions of the general officer on-scene by the OSC's staff members.

a. Operational control of all forces at the CAI scene.

b. Security and safeguarding of all classified materiel involved in the accident.

c. Surveys to determine actual and potential hazards.

d. Actions to minimize the hazardous effects of a CAI.

e. Requests for required assistance.

f. Operational reports.

g. Public Information.

h. Control and logistic support of observers and other authorized personnel at the CAI scene.

i. Claims.

j. Requests to local intelligence units for counter-intelligence inspections and surveys.

k. Relations with local civilian groups.

l. Disposal of classified material involved in the accident.

m. Certification of clearance of contamination from the CAI site.

n. Decontamination and disposal of contaminated material.

6. FUNDING: All PBA elements will respond immediately to requests from the On-Scene Commander. Requests for funds necessary to cover unprogrammed expenditures in response to requests from the on-scene commander will be submitted to HQ, ARRCOM, ATTN: DRSAR-CP.

7. RESPONSIBILITIES FOR SUPPORT OF GENERAL OFFICER AND STAFF:

a. Director of Supply & Services will provide logistical support for the OSC and any assistance teams from higher headquarters and other agencies and official observers.

(1) Mobile Equipment Division will provide transportation to and from airport and will make available thereafter three vehicles with military or civilian drivers.

(2) Housing Office will provide billeting.

b. CDR, USACC Detachment will provide 24-hour/day Message Center operation, including telephone exchange or other communication support.

c. Community Club will provide messing services.

d. Director of Plans, Readiness, Surety and Force Developement will coordinate the provision of support listed above. Additional support arrangements will include the following:

(1) On-Scene Commander's office/briefing room.

(2) Administrative supplies and accommodaticns.

(3) PBA Operational Guide.

(4) Entrance briefing charts.

(5) Currrent CAIC plans.

(6) Staff Directory Chart.

(7) Clerk typist.

(8) Protective masks for each of the OSC and accompanying staff.

(9) Finance support for advances if required.

(10) Radio communications with field elements.

(11) Polaroid camera.

(12) Small hand held tape recorder.

(13) Miscellaneous items, such as batteries, film, tape, etc.

8. GENERAL PROCEDURES:

a. Requests for the OSC will be made to USA ARRCOM (ATTN: DRSAR-SR during duty hours, or the SDO during non-duty hours) and to DARCOM Safety Office (SDO during non-duty hours) in accordance with current guidance. Reporting of this requirement will be made in accordance with TAB K, APP I. Commander, PBA may contact designated OSC to alert them of the request, brief them on the situation, and to obtain any special guidance regarding pre-arrival actions required.

b. Upon notification that a General Officer (on-scene commander) has been dispatched to PBA, the Director of PRS&FD will accomplish necessary coordinating action to provide support indicated in paragraph 7, this appendix.

c. Upon arrival at the installation, the Commander, or his designated representative will provide proper entry escort into the installation and to the OC, or CP or other designated location for formal assumption of scene. The on-scene commander will receive a briefing on the emergency situation, to include committal of resources, current status of actions and other related information. All CAIC emergency elements will be notified. The installation staff/CAICO will function in the support role as directed by the on-scene commander. Subsequent actions involved in the CAI control will be directed by the On-Scene Commander.

d. In test exercises, the procedures related to on-scene commander will be governed by guidance and ground rules expressed by himself or the Inspection Team. In any event, however, the responsibilities assigned to PBA as outlined in this Appendix remain unchanged and will be executed or simulated based upon the situation.

e. Support of the OSC, or CG, ARRCOM will be arranged by the Commander or the OC, in the collection of information for Reports of Investigation and Reports of Technical Investigation and Analysis required by paragraphs 5-10 and 5-11 of AR 50-6 and DARCOM Supplement No. 1.

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ANNEX C TO PBA-DCP

INCLOSURE 1 (AUTHORITY OF OSC TO ESTABLISH A NATIONAL DEFENSE AREA) TO TAB L TO APPENDIX I TO ANNEX C TO PBA-DCP

REFERENCES:

A. TWX, Subject as above, HQDA (DAMO-NC) dated 231858Z July 1981

B. AR 50-6-1, Chemical Surety, 15 Dec 78

C. AR 190-28, Use of Force, 1 Aug 80

D. AR 380-20, Restricted Areas, 1 Aug 80

NOTE: The following is extracted from reference A for interim guidance pending revision of AR 190-13, The Army Physical Security Program.

1. An OSC who responds to a chemical accident is authorized to establish a National Defense Area(s) (NDA) which is defined as: "An area established on non-federal lands located within the United States, its possessions or territories, for the purpose of safeguarding classified defense information, or protecting Department of Defense equipment and/or material. Establishment of a National Defense Area temporarily places such non-federal lands under the effective control of the Department of Defense and results only from an emergency event. The senior Department of Defense representative at the scene will define the boundary, mark it with a physical barrier, and post warning signs. The landowner's consent and cooperation will be obtained whenever possible; however, military necessity will dictate the final decision regarding location, shape, and size of the National Defense Area (NDA)". This authority includes denial of access to the NDA or removal of individuals who threaten the orderly administration of the accident site.

2. The OSC may establish one or more NDA to protect: (1) Chemical weapons or their components; (2) DOD equipment and material brought to the accident site; and (3) personnel involved in the response force. This area(s) will only be of a size and configuration necessary to provide protection for Federal property and personnel. The area(s) will be designated and secured based on the security interest or material contained therein and IAW provisions of References B and D. The use of security forces will be IAW References B and C. The area(s) will be posted with signs IAW AR 380-20 and, when appropriate, AR 50-6-1.

3. This message does not grant authority to an OSC to prevent access to or remove individuals from areas which may be chemically contaminated or areas within the downwind hazard zones, unless these areas meet the criteria of a NDA. However, the OSC is obligated to warn the public and assist local authorities in the evacuation of personnel from these areas.

4. HQDA, ODCSOPS POC is LTC Friel, DAMO-NOS, AUTOVON 227-1033, Commercial (202) 697-1033. HQDA, ODCSPER POC is LTC Gerard, DAPL-HRE PS, AUTOVON 289-1934, Commercial (202)756-1934.

ANNEX C TO PBA-DCP

TAB M (TECHNICAL ESCORT UNIT, PBA DETACHMENT) TO APPENDIX I TO ANNEX C TO PBA-DCP

1. ORGANIZATION: PBA-TEU is authorized one officer and 12 enlisted and is under the parent command of the US Army Technical Escort Unit, Edgewood Area, Aberdeen Proving Ground, MD 21010. The PBA TEU Detachment is a tenant organization at Pine Bluff Arsenal and will respond to a CAI upon request, if not already committed to another mission. Response to an on-post CAI will be as a member of the PBA Task Organization under direction of the CAICO/OC. Response to an off-post CAI will be as directed by the parent command. Back-up or alternate Technical Escort services, if required, will be requested through channels as prescribed in AR 50-6.

2. MISSION: TEU mission responsibilities include, but are not necessarily limited to:

a. Insuring compliance with proper DOD Regulations for certain shipments of Chemical Surety Materiels (CSM).

b. Assuring physical safety and security of CSM for which they have accepted responsibility.

c. Protecting personnel (military and civilian) who may be threatened by contamination if hazardous material is accidently released.

d. Making emergency repairs of leaking CSM containers.

e. Decontaminating small surface areas that are contaminated during a CAI.

3. PREPARATIONS:

a. Reference paragraph 7, Responsibilities.

b. On receipt of a CAI STANDBY ALERT, TEU Team will assume the readiness posture required by the situation and notify OC when prepared to deploy.

4. ACTIONS AT THE ACCIDENT/INCIDENT SCENE:

a. Report to CAICO at CP.

b. Perform Technical Escort functions as requested by CAICO and within capabilities.

5. SUPPLIES AND EQUIPMENT: As prescribed through Technical Escort command channels and local SOP's.

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ANNEX C TO PBA-DCP

APPENDIX II (COMMUNICATIONS AND SIGNAL) TO ANNEX C TO PBA-DCP

1. PURPOSE: Provide for prompt dissemination of notifications and alarm signals and the orderly transmission and receipt of messages between elements involved in CAIC.

2. RESPONSIBILITIES: Paragraph 7 of main body and TABS to this appendix.

3. NOTIFICATION AND DISSEMINATION:

a. Alarms Systems: Three basic alarm systems are utilized to provide notice of a CAI --- a primary system to notify elements/personnel assigned immediate response tasks, a secondary system to notify major installation elements, and a general system to provide wide area notification to cover the inhabitated/working areas of the post. The primary and secondary systems incorporate the telephone call method, with the general system utilizing siren warning devices.

(1) Primary Alarm System - This system consists of the following master telephones with closed circuit connections to selected stations (NOTE: Only the master telephone will ring all other stations. Terminal station instruments can ring only the master telephone and all instruments will ring until lifted).

LOCATION	STATION NUMBER
Fire Alarm Watch Desk (Master Telephone)	1
US Army Health Clinic	2 (Terminal)
Dir/Plans, Readiness, Surety & Force Development	3 (Terminal)
52d Ordnance Detachment (EOD)	4 (Terminal)
CAICO	5 (Terminal)
Security Office	6 (Terminal)
Assistant CAICO	7 (Terminal)
Commander	8 (Terminal)

This system is activated during duty hours at the Fire Alarm Watch Desk which, upon receipt of a CAI notification will record the message, activate the house alarm to notify the Fire Department and lift the receiver from the master telephone, and allow instrument to ring three times. After obtaining acknowledgment to identify those station personnel who have activated their respective telephone, relay the message, repeating if necessary. Station personnel are reminded to allow their instruments to ring three times, to identify their station when the receiver is lifted and to acknowledge receipt of the message prior to "hanging-up" the instrument.

During non-duty hours this system is not emplcyed. The Fire Alarm Desk will, upon receipt of a CAI notification, activate the house alarm, notify the guard captain and initiate the non-duty hour notification system. (NOTE: Responsibilities under this system are identified in a "Directory of Personnel Assigned Emergency Duties

During Chemical Accidents/Incidents" which is published, distributed and up-dated as changes occur.

(2) Secondary Alarm System - This system utilizes existing telephone facilities instruments to disseminate duty-hour notifications. The system is activated by the Dir/PRS&FD or the Operations Center, and relays the CAI notification and other emergency instructions to the following elements:

Commander
Director of Supply and Services
Director of Facilities Engineering
Engineering Plans and Services
Director of Engineering and Technology
Safety Office
Public Affairs Office
Judge Advocate
Mobile Equipment
Adjutant (Ch,PACSO) - In turn to: PX, Club, Housing
USACC Detachment
Civilian Personnel Office - In turn to: MISO, Comptroller, Procurement, Product Assurance

During non-duty hours the notification system described in the preceding paragraph (1) will be utilized in dissemination of the initial CAI notifications.

(3) The General Alarm Systems - This consists of a series of sirens located at Buildings 10-050, 51-570, 60-090, 34-910 and Avenue 6242/Bond Road which will be activated during duty and non-duty hours to alert area personnel of an actual CAI or a Test Exercise. Actual emergencies are identified by a continuing wailing tone, with test exercises using the steady one-minute blast signal. The alarm system is activiated at Fire and Guard Headquarters. Normally signal duration will not exceed five minutes.

c. CAI Messages:

(1) Actual or test exercies: This first knowledgeable individual will report the discovery by the most expeditious means to the Fire Alarm Watch Desk. This initial notification is to be identified as a FLASH RED GRENADE (Actual or Test Exercise) Message and reflects the following and additional information as available.

THIS IS A FLASH RED GRENADE (ACTUAL OR TEST EXERCISE) MESSAGE

1. The Agent is _____.
2. The Location is _____.
3. There is a (Fire), Explosion), (Other).
4. Acknowledgement.

The essential consideration is to report what is observed in order that response forces can react in the most effective manner after being notified. After relaying the initial FLASH RED GRENADE MESSAGE, additional information may be relayed in the form of a Detailed Message as follows:

THIS IS A DETAILED (ACTUAL OR TEST EXERCISE) MESSAGE

"This is a DETAILED _____ (Actual or Exercise) CAI message. Location of the accident is _____. Type weapon or container) is _____. Number of persons injured _____. No fire (or tell what is burning). No explosions (or, how many explosions), have been heard. Wind is from the _____ give direction from which wind is blowing). This is _____ (name) of _____ organization.)".

The above message may vary in content in accordance with the type emergency.

(2) Standby Alert Messages (Actual or Test Exercise) may be disseminated in advance of scheduled chemical agent operation based upon the nature of the operation. Chief, Surety Division, Dir/PRS&FD will review support needs, and initiate the alert describing the date, time and duration; amount/type of agent/munition; involved personnel/equipment needs; and providing other pertinent data including information as to locations and travel routes.

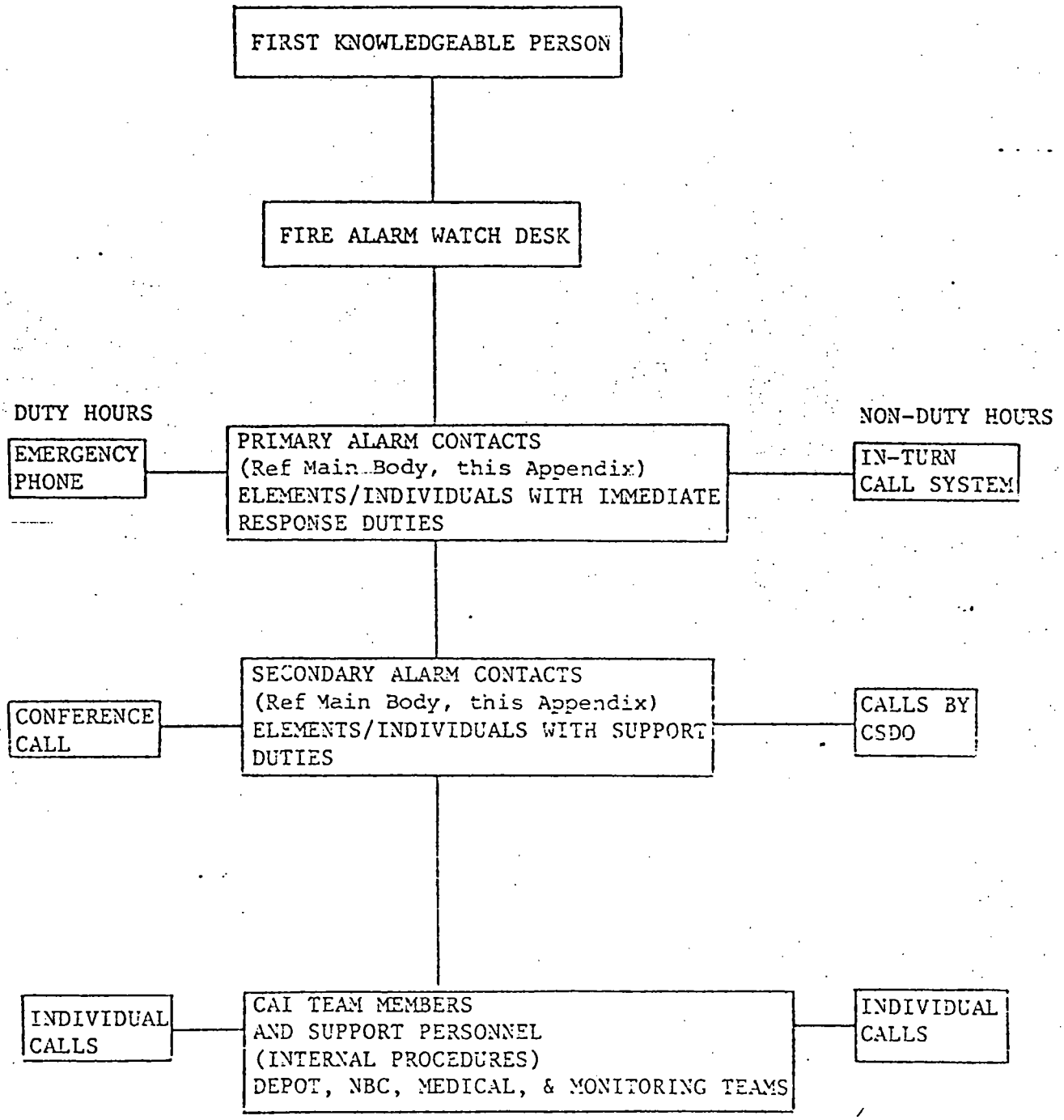
(3) Security Alert Messages (Actual or Test Exercise) may be disseminated that have no immediate and direct impact upon the chemical surety materiel or the CAIC Plan but, in a deteriorating situation, could result in a CAI. For this reason, the preparedness level of emergency teams and personnel might require elevating.

c. Testing of Systems: Duty and non-duty hour tests of the primary, secondary and general alarm system will be accomplished periodically and results evaluated to improve system effectiveness. Directors and Chiefs of Staff Offices will assure personnel are knowledgeable in procedures in receiving/recording/discussion of such notifications.

4. RADIO COMMUNICATIONS: Radio nets authorized for use during Chemical Accident/Incident Control are the Security Net (F1); the Command (CAIC) Net (F4); the Depot Net (and survey, detection and hazard estimating teams) (F3); and Security Net (F2) which will be established for special operations when required crystals are received. Installed telephones and/or telephone jacks throughout the Arsenal at designated Security, Command and Control, and CAIC element locations will be used when possible to reduce radio traffic and to deny possible monitoring of actions.

ANNEX C TO PBA-DCP

TAB A (DISSEMINATION CHART) TO APPENDIX II TO ANNEX C TO PBA-DCP



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ANNEX C TO PBA-DCP

APPENDIX IV (CAIC EXERCISES TO ANNEX C TO PBA-DCP)

1. PURPOSE: Train CAIC teams and officials and evaluate their capability to effect CAIC.

2. POLICY:

a. Training and Test Exercises will be conducted to evaluate installation readiness capabilities. Although training exercises may be announced in advance, test exercises, normally will not, unless a movement, surveillance, demilitarization or other requirement operation is involved which requires one day notice, and may require a CAI standby alert.

b. A minimum of one full scale Test Exercise will be conducted quarterly. Installation elements will accomplish such internal tests/training as necessary for readiness preparations. When personnel/facilities external to the organization are involved, Directorate of Plans, Readiness, Surety and Force Development will be notified.

c. All individuals assigned CAIC duties will participate in post-wide exercises unless excused by reason of continuing essential operations. Personnel working in or near the chemical storage areas, upon notification of an exercise, will execute emergency actions that may be required including donning of protective mask, area evacuation or other measures. Although essential operations, including contractor operations, may be continued with authority of the Commander, complete notification of personnel must be made. All installation personnel not involved in the conduct of the exercise could require their later involvement.

3. EXERCISE PREPARATION, DISCIPLINE AND CONTROL:

a. Post-wide exercise scenarios will be prepared by the Director/PRS&FD based upon training needs. Where necessary, coordination with installation elements will be accomplished. Unless otherwise directed by the Commander, the exercise controllers/ observers will be designated by the Director of Plans, Readiness, Surety and Force Development or his designated representative.

b. Ground rules for exercise play will generally be those prescribed for the conduct of DARCOM Surety and Operational Inspections. This will include the use of a white to off-white powder as a simulant to represent area/ground agent contamination. Masking tape will be used as a simulant to represent agent contamination on personnel and equipment. The condition of casualties will be described on a symptom card attached to the victim

as shown in Figure 1. Observers/inspectors will wear the appropriate identification badge shown in Figure 1 and will coordinate with operating personnel in a patient and courteous manner, being alert to the need of individual to understand the purpose of the simulated situation. Interrogations and other distracting actions which would distract from player efficiency will be avoided.

c. Traffic: Traffic rules (speed limits, stop signs, etc.) will be complied with during exercises unless operating under emergency lights conditions.

d. Communication: Telephone, TWX, and all written messages will begin and end with the phrase, "This is a TEST EXERCISE". Radio messages will be similarly identified particularly those key messages which originate an exercise or require commitment of resources and responses from emergency teams/personnel. The Operations Center (OC) will periodically announce that a CAI is being conducted and provide time, weather conditions and other essential information.

e. Records and Reports: As may be required by the exercise controller, logs and events, actions and messages will be maintained which will be the basis for accomplishing evaluations for post-wide exercises. Normally, a Commander's critique will be conducted subsequent to an evaluation of the exercise by the controller and observers. Post exercise reporting requirements may be directed on a case-by-case basis.

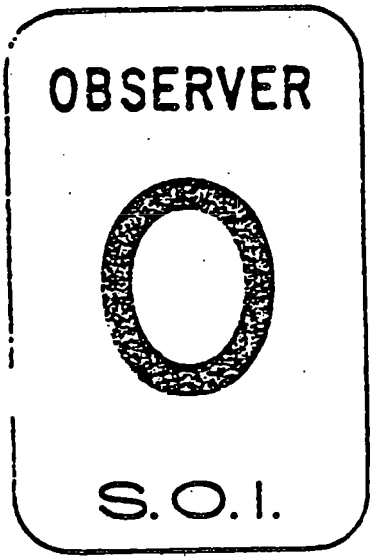
f. Off-Post Situations: In event of an ACTUAL Chemical Accident/Incident, certain off-post responses could be required of this installation (i.e., Fire, Medical, Monitoring); however, in TEST situations no medical, fire or security resources will be committed off-post since such action could be interpreted as signifying a threat in the community and resulting unfavorable publicity to the Army. Off-post monitoring teams may be dispatched but the use of any protective clothing will be simulated, although the mask should be carried in the vehicle. Prudent judgment must be used by personnel responding off-post in order not to create unnecessary public interest.

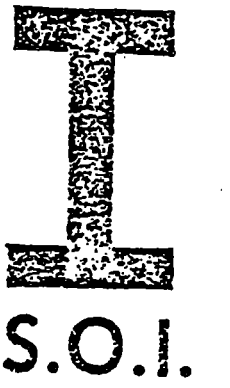
4. SAFETY AND SECURITY:

a. Safety rules and regulations will not be violated during exercise situations. Nor will normal required security requirements be violated or terminated.

b. If during the conduct of an exercise, an actual emergency condition is detected or develops, the First Knowledgeable Person will immediately initiate the alert notification and state twice.... "THIS IS AN ACTUAL SITUATION MESSAGE" prior to and after relaying the message.

APPROVED OBSERVER/INSPECTOR BADGES





APPROVED SYMPTOM/CASUALTY CARD

PINPOINTED PUPILS
DIMMED VISION
RUNNING NOSE
TIGHTNESS OF CHEST
LOCALIZED SWEATING
MUSCULAR TWITCHING
VOMITING
DIARRHEA
WEAKNESS
UNCONSCIOUS
BREATHING STOPPED
SEVERE BLEEDING
RIGHT LEFT ARM LEG
BROKEN
RIGHT LEFT ARM LEG
WEAK PULSE

(FRONT)

RAPID HEART RATE
DILATED PUPILS
DRY MOUTH
FLUSHED FACE
RAPID BREATHING
RESTLESS & EXCITED
COORDINATION IMPAIRED
CONFUSED
STUPOROUS
DROWSINESS
FRIGHT

REDDENING SKIN
BLISTERS
REDDENING EYES

(BACK)

Figure 1

ANNEX C TO PBA-DCP

APPENDIX V (EMERGENCY PROTECTIVE MEASURES) TO ANNEX C (CHEMICAL ACCIDENT/INCIDENT CONTROL PLAN) TO PBA-DCP

1. PURPOSE. To prevent or minimize exposure of personnel in event of massive release of a chemical agent.

2. SCOPE. The protective measures prescribed in this Appendix apply to all on-post personnel except those engaged in work operations at the site of an accident and those personnel assigned to the CAIC Task Organization.

3. POLICY. On-post personnel including contractors, tenants and visitors whose functions may be performed in the proximity of agent areas will be given basic orientation on emergency procedures and provided the necessary protective equipment. Other personnel, including on-post dependents and visitors will be informed during annual and periodic post-wide refresher training in emergency procedures. Necessary protective equipment and evacuation assistance will be provided.

4. RESPONSIBILITIES.

a. Commander, PBA, will order the execution of evacuation or BUTTON-UP procedures by administrative areas (Depot, Facilities Engineering, E&T, Administration Building area, etc.) and/or housing areas when deemed necessary. The evacuation may be a purely precautionary measure. NOTE: If the Commander, Deputy Commander, Executive Assistant, or Chemical Surety Officer is not immediately available to receive the hazard estimate, the senior individual present may initiate evacuation or BUTTON-UP procedures by notification of appropriate contacts when, in his/her judgment, available information indicates that the urgency of the situation is such that it would be dangerous to wait for a decision by higher authority.

b. The OC will assure that necessary telephone and/or radio messages are dispatched to implement execution of this Appendix.

c. Chief, Security Office will:

(1) Disseminate by mobile PA systems, bull horn or any other expedient means, the order to evacuate or BUTTON-UP to housing areas and any isolated work groups not in contact with the OC.

(2) Direct evacuation traffic to a designated safe on-post or off-post location.

d. Chief, Mobile Equipment Division will (during duty hours) dispatch a bus, if available, to the housing areas (Staff Row, Officers Capehart, and NCO Capehart) when requested to assist in evacuation of dependent personnel to a designated safe location as directed by traffic control personnel.

e. NBC Officer will accomplish monitoring of evacuated areas to determine when it is safe for evacuees to return and will accomplish the monitoring necessary to determine when it is safe to release personnel from a BUTTON-UP situation.

f. Directors and Chiefs of Staff Offices are responsible for the development of procedural guidance for operating personnel in or near chemical storage areas and for internal procedures as deemed necessary to accomplish evacuation and BUTTON-UP actions.

5. EXECUTION.

a. General Instructions:

(1) When the General Alarm signal is sounded, the exact location of the emergency will be unknown at that time to most, if not all personnel working in or near the chemical areas (i.e., those containing GB, VX, BZ, CK or H) with the exception of personnel who might be involved in the accident. For this reason, these personnel must immediately react as if the work environment is, or might be, hazardous. Personnel working in other areas (i.e., Area 5, Administration areas, and other South Post locations) should be alert to the fact that an exercise or actual emergency is in effect. These personnel should be observant for emergency vehicles, be prepared to return to their normal duty stations, and execute other assigned duties.

(2) Personnel working in or near (adjacent to) chemical agent storage areas who have knowledge of the location of the accident and who have reason to believe their work location is or could be potentially hazardous, will don protective mask and evacuate the area by the safest route. Upon evacuation, notify the respective organization that evacuation has been completed.

(3) Personnel working in or near (adjacent to) chemical agent storage areas who have no knowledge of the location of the accident, will don protective masks and remain at this duty location until receipt of additional instructions. It is emphasized that these individuals will NOT evacuate until ordered to do so. Such movement could increase the degree of hazard. If radio or telephone communication facilities are available, contact with the appropriate supervisor or OC should be made to obtain instructions.

b. Evacuation Procedures: On receipt of order to evacuate the area due to chemical accident.

ANNEX C TO PBA-DCP

TAB A (SPECIAL PROVISIONS FOR THE NATIONAL CENTER FOR TOXICOLOGICAL RESEARCH) TO APPENDIX V (EMERGENCY PROTECTIVE MEASURES) TO ANNEX C TO PBA-DCP

1. PURPOSE: To extend protective measures provided the National Center for Toxicological Research (NCTR) beyond those of a post emergency nature as specified in the main body of this Appendix. The NCTR is a government agency administered by the Food and Drug Administration. Located off Pine Bluff Arsenal but near Arsenal storage sites, the NCTR, (a non-DOD activity) has more than the normal emergency planning interface which is afforded the general off-post population due to the proximity of its facilities and personnel to storage areas. Accordingly, accomplishment of more definitive planning for personnel protective measures, as described in this Tab, is considered appropriate.

2. SCOPE: Pine Bluff Arsenal responsibility for coordinating emergency plans with the off-post community (including the NCTR) and providing assistance, is defined by applicable Army Regulations. The degree of this coordination/assistance, however, is limited not only by Army policy but also to the extent which such can be mutually agreed upon by the Arsenal and the off-post element. The scope of special provisions identified in this Tab is applicable to all NCTR personnel; however, provisions of assistance by Pine Bluff Arsenal is extended on an "offered only" basis, with the prerogative for "acceptance and use" vested in NCTR Management.

3. RESPONSIBILITIES:

a. Pine Bluff Arsenal:

(1) Chemical Surety Officer will:

(a) Arrange training sessions in chemical emergency procedures for individuals designated by NCTR to receive such training.

(b) Coordinate the prepositioning, if desired, of protective equipment (masks, atropine syrettes, etc) at NCTR, and assure that control and accountability procedures are adequate.

(2) PBA Operations Center will advise NCTR contacts concerning the need to evacuate personnel from the NCTR location, the route to be used if evacuation is recommended, and other information when available which would improve the safety factor for personnel.

(3) Chief, Security Office will direct evacuation traffic if NCTR personnel should be routed through PBA, and assist, to extent practicable, if other than Arsenal egress route is utilized.

ANNEX C TO PBA-DCP

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ANNEX C TO PBA-DCP

TAB B (COMMUNITY SUPPORT AGREEMENTS) TO APPENDIX V TO ANNEX C TO PBA-DCP

1. The following civilian agencies have completed mutual support agreements with this installation for assistance in event a CAI occurs at PBA or other points and involves the off-post community:

	AGENCY AND INDIVIDUAL	CONTACT NUMBERS
a.	Pine Bluff Police Department Chief of Police	534-1212
b.	Jefferson County Sheriff Department Sheriff	541-5351
c.	Arkansas State Police Department Director	371-2151 (LR)
d.	Jefferson Regional Medical Center (Administrator)	541-7100
e.	Pine Bluff Jefferson County Health Dept Director	535-2142
f.	White Hall Police Department/Mayor	247-2399

NOTE: Mutual firefighting agreements are executed with the Pine Bluff and White Hall Fire Departments.

2. The Commander will commit such resources deemed advisable upon occurrence of a CAI either on-post that extends into the community, or that involves the community but which has not resulted from a PBA emergency. This will not degrade the acceptable level of resources which must be retained to control the current emergency or to provide satisfactory response to an emergency which might occur.

3. Pre-positioning of emergency supplies with civilian agencies required to respond to a CAI emergency will be accomplished in accordance with current guidance.

4. Continuing coordination through reciprocal liaison visits, periodic unclassified briefings, and participation in civil defense and emergency planning will be accomplished with all civilian agencies with whom mutual support agreements are maintained. Planning meetings will be conducted annually, or more frequently if necessary.

b. National Center for Toxicological Research (NCTR) will designate individuals to act as points of contact for coordinating the special planning actions described in this Tab and other related actions as determined necessary by NCTR for maintaining program continuity.

4. EVACUATION PROCEDURES: Dissemination of the order to evacuate, plant shutdown procedures, the determination of work stations that should or should not be vacated, and routes of egress to the parking lot are problems that are internal to NCTR and are not within the scope of this plan. Two all-weather roads are available to NCTR personnel for use as evacuation routes. The primary evacuation route would be the regular NCTR road leading NE to County Road and US Highway 365, if it is to be used. PBA responsibility concerning evacuation would be limited to reporting to the NCTR contact the advisability of evacuating personnel, and an estimate of potential agent hazards associated with such a movement. The alternate evacuation route is SW from NCTR through the PBA perimeter gate on Roemer Road leading to Stark Gate. Upon reaching traffic control point (TCP) 5 (first intersection after passing through the gate), PBA Security personnel will direct traffic through other TCP's, activated for CAIC, to a safe on-post or off-post location.

ANNEX C TO PBA-DCP

TAB C (MUTUAL SUPPORT AND EXTERNAL ASSISTANCE) TO APPENDIX V TO ANNEX C TO PBA-DCP

1. POLICY:

a. Paragraph 6, Main Body of this Annex, states the general policies concerning assistance to other installations/agencies by the PBA CAIC Task Organization. Plans and agreements with outside civilian agencies or activities will comply with all HHQ directives.

b. Civilian guards will not be used for law enforcement duties off-post.

c. When CAIC Officers and Teams are dispatched off-post to render assistance, a minimum staff will be kept on-post in order that the installation will not be without a CAI response capability.

d. Other assistance by PBA will be in accordance with mutual support agreements and regulations, or emergency plans applicable to the situation.

e. Mutual Support Agreements have been formalized in accordance with guidance from higher headquarters with the Arkansas State Police, Pine Bluff Police Department, White Hall Police Department, Jefferson County Sheriff's Department, Pine Bluff Jefferson County Health Department, and Jefferson Hospital. Copies of the signed agreements are distributed on a need-to-know basis only and will not be incorporated into this plan for general distribution. Mutual Support Agreements for firefighting assistance have been executed with the Pine Bluff and White Hall Fire Departments. Applicable extracts of this plan, including subsequent changes, pertaining to the responsibilities of these agencies will be provided as a part of continuing liaison and coordination.

2. ASSISTANCE AVAILABLE TO PBA:

Type Assistance	#Source and Description
Security (Civil Authority)	Jefferson County Sheriff's Department, Pine Bluff Police Department, White Hall Police --traffic control, evacuation (Ref Tab B).
	Augmentation Reserve Force - Reference Tab D to Appendix I, this plan, and the PBA ARF Support Plan.
	Federal Bureau of Investigation 902d MI, PRAD, Edwin Rundle (A-829-2550) 24 hour contact is 902 MI, FSH (A-471-6671)

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Explosive Ordnance Disposal	52d Ordnance Detachment (EOD) at Pine Bluff Arsenal or 546th Ordnance Detachment, EODCC, Fort Sam Houston, TX if backup required.
General Officer On-Scene Commander	CDR, DARCOM, Assume complete CAIC responsibilities. (Submit request to HQ, ARRCOM).
Technical Advice	CDR, USA ARRCOM DRSAR-SR - Surety DRSAR-SF - Safety DRSAR-AS - Munitions Systems CDR/Dir, Chemical Systems Laboratories DRDAR-CLS - Surety
Demilitarization	TEU (See Tab G to Appendix I for assistance requests when local teams unable to seal leaking munitions/containers)
Medical Advice and Assistance	The Surgeon General's Chemical Medical Consultant (request through, HQ, DARCOM, DRCSG--coordinate with Fort Sill) Emergency Medical Teams (request through Health Services Command channels) Jefferson Regional Medical Center, or Jefferson County Health Officer
Firefighting	Pine Bluff and White Hall Fire Departments (secondary fires only, if on-post)
Additional Decontaminants	See Tab G to Appendix I for Point of Contacts

*See PBA OC Directory of Off-Post Emergency Contacts for telephone numbers.

Explosive Ordnance Disposal	52d Ordnance Detachment (EOD) at Pine Bluff Arsenal or 546th Ordnance Detachment, EODCC, Fort Sam Houston, TX if backup required.
General Officer On-Scene Commander	CDR, DARCOM, Assume complete CAIC responsibilities. (Submit request to HQ, ARRCOM).
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Firefighting	Pine Bluff and White Hall Fire Departments (secondary fires only, if on-post)
Additional Decontaminants	See Tab G to Appendix I for Point of Contacts

*See PBA OC Directory of Off-Post Emergency Contacts for telephone numbers.

ANNEX C TO PBA-DCP

TAB D (SPECIAL PROVISIONS FOR EVACUATION OF THE OFF-POST COMMUNITY) TO APPENDIX V (EMERGENCY PROTECTIVE MAEASURES) TO ANNEX C TO PBA-DCP

1. Purpose: To extend protective measures to off-post areas beyond those specified in the main body of this Appendix. This type emergency planning is a recognized Army responsibility in view of the proximity of its storage areas to off-post population and facilities.

2. Scope: Pine Bluff Arsenal's responsibility for developing a coordinated emergency evacuation plan for off-post areas that could be located within a downwind hazard zone is defined by current directives. The off-post area included within this plan is based upon applicable criteria of the Department of Defense Explosive Safety Board.

3. General Description of Area:

The population included within the potential downwind hazard area primarily is located on, immediately off, or near those roadways which form the transportation network for vehicular traffic. This area is generally described as bordering the installation's north perimeter and the north one-half of the Arsenal's western perimeter. Roads primarily used by residents for local traffic are either state or county maintained and easily traveled. This area is situated in the same county (Jefferson) which will centralize coordination efforts with civil authorities. The prevailing type of residences/ homes/businesses is termed modern with provision of either private/ municipal owned installed utilities. There are no incorporated communities within this area -- the population is generally dispersed. Most residences are of the permanent dwelling type with an interspersing of mobile homes. The area is generally tree covered. A combination of these factors increases the potential for effecting an evacuation if the time factor if favorable.

4. Procedures:

a. Identification of evacuation area: A zoning identification arrangement will be emplcyed to identify population areas which are subject to the provisions of this plan. These zones are based upon the geographical relationship of the area population to the existing main highway/roadway network. A description of these zones and the probable evacuation point is as follows:

Zone No.	Description of Area	Evacuation Point
	Northern Perimeter	
	There are no specified areas off the installation's Northern perimeter that are included within the calculated hazard zones; however, monitoring to establish the safety of these areas will always be accomplished in event of emergencies which involve directions in this area.	

Zone No.	Description of Area	Evacuation Point
	Western Perimeter	
A	Highway 365 North of Gravel Pit Road (Applicable wind direction ESE)	Jefferson, AR
B	Gravel Pit Road, East and West of State Highway 104, and US Highway 365 South to Oak Grove Baptist Church (Applicable wind direction ENE)	Junction Highway 365 and State Highway 104
C	US Highway 365 at Oak Grove Baptist Church, South to Dexter Gate (Applicable wind direction NNE)	Dexter Gate area on Highway 365

b. Priorities:

(1) Arsenal attention will be initially directed to protection of the population in residences/businesses nearest the installation and within the potential downwind hazard. Based upon time factors and the resources available for responding to the existing emergency, decisions will be formulated regarding evacuation. When an exacuation is not determined possible, utilizing the resources available within the time remaining prior to arrival of the toxic hazard, other courses of action to alleviate the situation may be taken such as recommending to the local news media and authorities that all personnel in the hazard area remain inside buildings and others, who may be outdoors, to seek shelter -- instructions will be issued to this latter category to close/shut off all doors, windows, vents, fans and air conditioners. When an evacuation decision is appropriate contact with the Jefferson County Sheriff's Office will be established. The area to be evacuated will be identified and decisions effected on establishing necessary highway/roadway traffic control points and accomplishing other actions necessary for the safety and welfare of the population. If use of the pre-determined evacuation points is not feasible, alternate sites will be selected. As the primary civil point-of-contact for an evacuation action, the Jefferson County Sheriff's Department will obtain assistance/support from other civil authority as required. This plan will be included as a part of the respective Memorandum of Understanding with this agency.

(2) Arsenal Off-Post Monitoring Teams will be committed at the earliest practicable time to perform survey and detection actions at off-post locations included within the potential downwind hazard estimates. These teams will determine presence/absence of agent.

(3) Arsenal emergency forces will initially be concerned with those actions to effect containment of the accident/incident, with civil authority exercising control of off-post traffic and personnel movements, and accomplishing community assistance functions including warning and evacuation. This will be supported by installation actions to inform the public through the appropriate civil authority and/or news media of information considered necessary to reduce undue public concern.

(4) Civil authorities will initially take action to restrict the entry of vehicles into the defined hazard area at the appropriate designated locations. Contingent upon on-post requirements, assistance will be provided to the community in executing the required emergency actions -- i.e., evacuation of remaining on-site.

(5) Post emergency actions will be a joint action of civil authority and Pine Bluff Arsenal based upon existing specific needs.

(6) Off-post assistance will not be provided to the extent that on-post capabilities would be degraded to a high risk level.

c. Coordination:

(1) The Pine Bluff Arsenal Operations Center (OC) will establish immediate contact with the Pine Bluff Police Department, White Hall Police Department, Jefferson County Sheriff's Department, and the Arkansas State Police, local Civil Defense, Health and Hospital Officials to relay information on the existing hazard including areas involved, and immediate emergency actions required. This coordination, is in accordance with existing Memorandum of Understanding executed between these agencies and Pine Bluff Arsenal. (Reference Tab B, Appendix I)

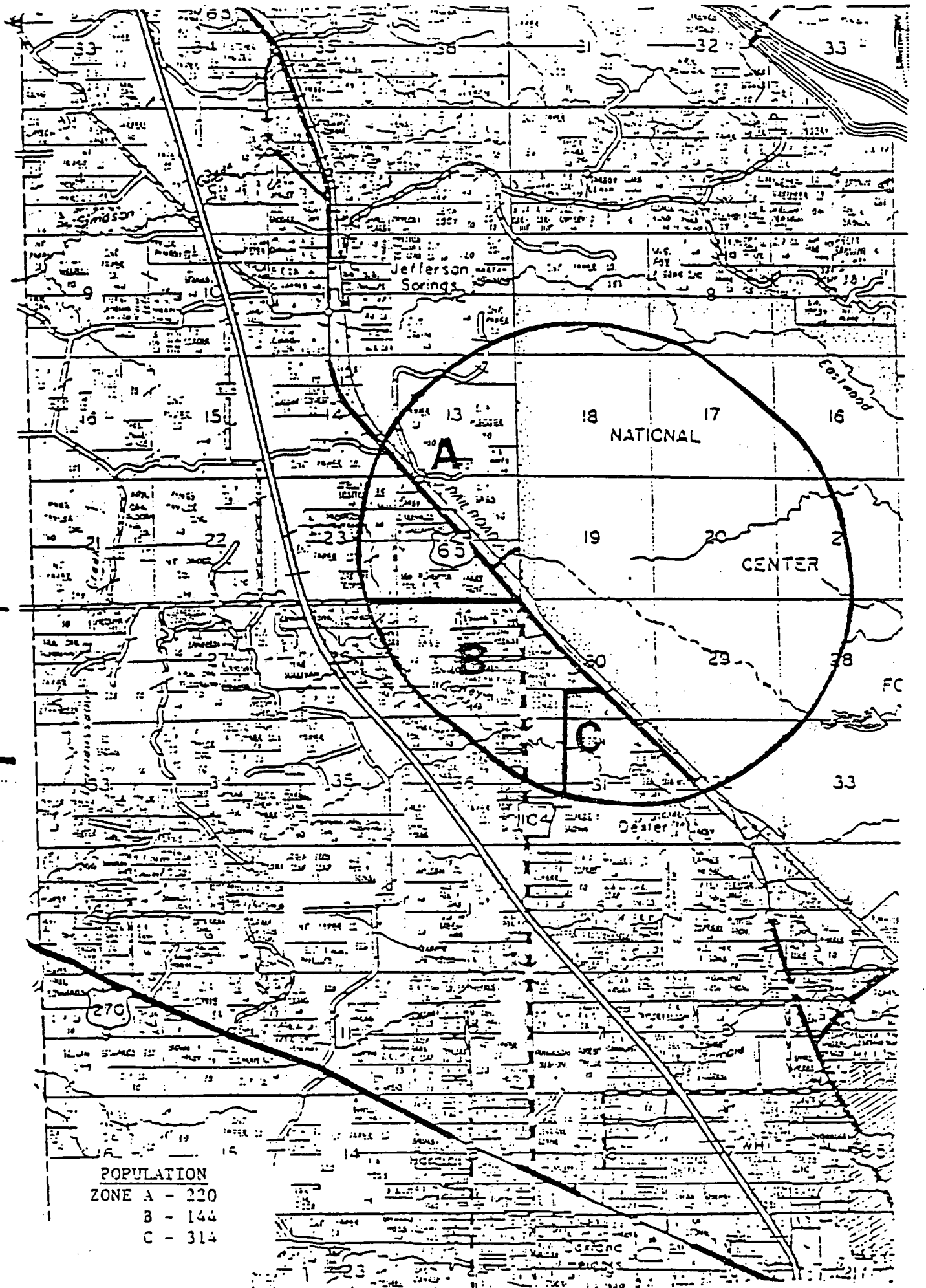
(2) Direct coordination with residents of the off-post community will primarily be a responsibility of civil authorities but with assistance by the Arsenal as jointly determined necessary by civil authority and installation officials.

d. Special Support:

(1) Requirements for emergencies of this type will vary with the extent of the hazard. As a premise, emergency medical aid support, transportation, and rescue efforts will be performed primarily under the command/control of civil authority augmented by Arsenal assistance. Technical advice will be given to civil authority by Pine Bluff Arsenal regarding the special/unique problems of chemical agent casualties, and individual preventive/protective measures.

(2) The capability for warning and evacuating the civilian community adjacent to Pine Bluff Arsenal will be achieved through utilization of civilian resources. When these resources alone cannot provide adequate protection to the public commensurate with the hazard, the Arsenal Commander will determine if employment of installation personnel and equipment is required. This decision will be made by the On-Scene Commander, when present.

INCLOSURE 1 (OFF-POST EVACUATION MAP) TO TAB D TO APPENDIX V TO ANNEX C TO PBA-DCP



SECTION H

H. PERSONNEL TRAINING. [270.14 (b)(12); 264.16].

H-1 (1) Outline of Training Program [270.14 (b)(12)].

I. Introductory Training

A. Validation of manuals as described in Section H-1 (2) of this Permit Application.

B. Classroom Instructions

1. Job title and duties explanation for all BZ Demilitarization Facility personnel.

2. Instructive course work as shown in Table H-1 of this Permit Application.

3. Explanation of relevance of training to job position to all BZ Demilitarization Facility personnel.

4. Instruction in response to emergencies.

5. Supervised practice operation (dry runs).

C. On-Job-Training

1. Demonstrations for BZ Demilitarization Facility personnel by equipment vendors and others.

2. Plant operation as described in Section H-1 (2) of this Permit Application.

II. Continuing Training

A. Classroom Instructions

1. Continuing training and refresher courses as detailed in Section H-1b (2) of this Permit Application.

2. Safety meetings.

3. Review of contingency plan.

4. Review of records keeping.

5. Review of maintenance procedures.

6. Short courses related to hazardous waste management.

B. On-Job-Training

1. Regular performance of jobs and duties by all BZ Demilitarization Facility personnel.

H-1 (2). How Training Is Designed to Meet Job Tasks. [270.14 (b)(12)].

Introduction.

An integrated testing program will be implemented to insure that the BZ disposal facility is operated in an efficient and environmentally safe manner and which will insure the protection of both the workers and the general population. The initial training program will consist of three phases: (1) validation of training and operating manuals (2) classroom training of workers and demonstration runs ("dry runs") showing how the equipment operates, and (3) hands-on training of workers on the equipment. Each phase is expected to last approximately two months. Reviews of classroom and hands-on training will be conducted whenever operations are changed (i.e., when different types of materials are going to be processed).

Validation of Manuals.

During this phase, the contractor who has procured, installed, and

functionally tested the process equipment will performance test the equipment and use the results of the performance test to validate and update all training and operating manuals for the equipment. The purpose of this phase is to insure the accuracy and completeness of the manuals and to insure that contingency planning is reflected in the manuals.

Classroom Training.

During this phase, the equipment contractor's professional and technical staff will use the validated manuals and other instructional aids to train the personnel who will operate the plant. This will include "dry runs" of the equipment and controls so that operation and maintenance personnel understand the system. The type and length of training will depend, of course, on the specific job assignment. Lab and QA personnel will be trained at the equipment vendor's facility and by USATHAMA chemists, respectively. The director, deputy and engineering staff will attend all operations and maintenance training.

Hands-on Training

During this phase, the operations staff will operate the plant, beginning with simulant munitions and non-BZ contaminated CMC. At the conclusion of non agent training, the Army will conduct a formal preoperation survey to insure that all safety and environmental requirements are met prior to operations involving BZ. After successfully passing the preoperational survey, the BZ plant operators will initiate low rate BZ disposal and gradually increase disposal rates until the desired rate is reached. Throughout this stage, the equipment contractor's technical staff will

critique the performance of the operations and maintenance staff and provide corrective actions and retraining as required.

Lab and QC personnel will operate and test their equipment and procedures until the QC requirements for precision and accuracy are met. No hands-on training for the director or deputy is scheduled.

General Training.

All employees must understand the basic operation of the facility and know and abide by Army regulations applicable to chemical agent facilities, such as surety, security, and safety. Other training topics applicable to all employees are what to do if plant alarms sound, how to handle cases of BZ exposure until medical personnel are summoned, how to render general first aid, etc. All new employees will receive new employee familiarization/indoctrination training conducted by the Arsenal.

Job and Training Records.

Job and training records will be produced and maintained as required by 40CFR 246.16 (d) and 40CFR 264.16 (e).

Instructors.

Instructors, whether government personnel or equipment contractor personnel, must be thoroughly knowledgeable in the areas they are teaching. Munition handling and transport will be instructed by Army personnel certified in these fields. Safety, surety, and security personnel from the Arsenal will

conduct training in these areas. The equipment contractor will be responsible for providing equipment-specific training. The GC-MS and colorimetric autoanalyzer vendors will provide training on this equipment to the chemists and technicians.

Instructor Qualification.

Classroom and on-the-job training (OJT) will be conducted by training teams composed of government and contractor personnel. The contractor training personnel will work with both operational and maintenance workers to insure that they are thoroughly familiar with normal plant operations, emergency operations, emergency plant shutdown, response to alarms, routine and emergency maintenance procedures, and other aspects requiring knowledge of the design and operations of the plant and its equipment.

Contractor training personnel will also instruct laboratory personnel in the proper handling and spill control requirements of RCRA and in the proper response to alarms. Technical training in lab operation and analytical techniques and quality control will be performed by USATHAMA personnel and analytical equipment manufacturers.

The engineering staff will attend all operations and maintenance briefings, and in addition, will be given assistance from the equipment fabrication contractor in reviewing all equipment drawings applicable to the facility. Note: Since most of the engineers will have participated during the construction and/or installation of the equipment and facility, most will already be knowledgeable and which will facilitate their training.

Worker Qualifications.

All operations and maintenance personnel at the facility will be required to enter the Army's Suitability and Reliability Program, demonstrate the ability to understand and apply both oral and written instructions at a level appropriate to the assigned job, and to possess the aptitude and attitude necessary to insure compliance with job and safety requirements, and to be physically capable of doing the work. Workers who will handle munitions must also have demonstrated this capability in past job assignments and/or be certified as munitions handlers. Chemists and engineers will be required to have at least a BS degree in their field and to have had some experience in lab analytics and equipment design/operation, respectively.

Workers Covered Under This Training Plan.

The operations and maintenance workers listed below either (1) handle RCRA materiel in the plant, or (2) operate or maintain equipment which processes RCRA materiel. RCRA processing equipment includes the inerting tanks (where water is forced into the reactive pyrotechnic mix in the munitions), the feed conveyors, munition deactivation furnace, the glovebox handling CMC drums, metal parts furnaces equipped with primary fume burners (which burn the ignitable CMC solutions), and the controls for all these pieces of equipment.

H-1a. Job Titles and Duties. [264.16 (d)(1) and (d)(2)].

The following tabulates job titles and duty descriptions of each type of employee expected to work at the BZ Demilitarization Facility. Names of particular employees are presently undetermined, but such employees will be named in sufficient time to provide the required training prior to beginning facility operations.

Director's Office

Title: Director

Name:

Duties: The director is responsible for overall management of the BZ disposal facility. He must be familiar with all major aspects of the plant in order to make effective decisions, although he will not normally be present on the site itself.

Title: Deputy Director

Name:

Duties: Same as director.

Engineering

Title: Engineer

Name:

Duties: Responsible for insuring normal operations at the facility and problem solving, including equipment modification, as required, when problems arise. Update all operations and maintenance manuals, insure repair parts stockage, and inform operations and maintenance personnel of any changes in equipment or operating/maintenance procedures.

Title: Safety Engineer

Name:

Duties: Responsible for insuring normal operations at the facility are conducted in accordance with Army safety regulations including DARCOM Reg 385-100. Performs routine plant inspections to insure that procedures involving the use of personnel protective equipment are being performed in accordance with Standing Operating Procedures (SOP). Reviews SOPs for the inclusion of instructions for personnel protection. Provides safety training to all plant personnel. Updates procedures and equipment as necessary to reduce the possibility of accidents. Prepares accident reports and submits reports to the Chief, Pine Bluff Arsenal Safety Office.

Title: Technician/Technical Writer

Name:

Duties: Assist Engineer in updating drawings, specifications, manuals, etc.

Laboratory and Quality Control

Title: QA Inspector

Name:

Duties: Monitor control parameters, track munitions from removal to destruction, maintain required records.

Title: Laboratory QA Analyst and Data Analyst

Name:

Duties: Control spikes, blanks, etc., keep records for lab QA.

Title: Chemist

Name:

Duties: Conduct GC-MS, supervise lab, analyze data from chemical analyses.

Title: Lab Technician

Name:

Duties: Operate colorimetric autoanalyzer, prepare stack sampling and workplace sampling trains (for BZ sampling), clean glassware, etc.

Title: Lab Aide

Name:

Duties: Disassemble sampling trains and filters, do extractions, assist lab technicians as required.

Operations

Title: Toxic Change Room Attendant

Name:

Duties: Stock and issue clothing and rubber protective suits. Keep track of all personnel entering and exiting toxic area. Provide emergency standby rescue services for toxic area personnel. Clean gas masks.

Title: Operations Engineer/Control Room Operator

Name:

Duties: Direct all demilitarization operations. Monitor panels and controls, control interlocks, check equipment status, maintain records, handle site communications and CCTV, and operate all remote controlled equipment.

Title: Liquid Treatment System Operator

Name:

Duties: Off-load and mix chemicals and deliver to points of use. Collect and dunk cotton and rubber goods in decontamination tanks, remove and send to Pine Bluff Arsenal laundry.

Title: Clothing Issue Attendant

Name:

Duties: Provide services for personnel using the personnel support complex. Maintain records on mask inspections and log in medical checks.

Title: Furnace Area Operator (Non-toxic)

Name:

Duties: Monitor metal parts furnace exits (RCRA and non-RCRA furnaces). Start furnaces. Coordinate with sampling and forklift personnel. Monitor deactivation furnace exit and replace dumpster when full.

Title: Forklift Operator

Name:

Duties: Cool and empty trays processed through the metal parts furnaces. Coordinate and handle base trays, material transport containers, grates and adapter cradles, and load empties into entrance airlock in the proper sequence. Unload munitions from the delivery truck into the munitions holding area (igloo) and then move them to the entrance airlock as required. Deliver drums of CMC to the drum glovebox for processing.

Title: Munitions Unpack Operator

Name:

Duties: Uncrate munitions delivered from MHA. Prepare wood crate dunnage for incineration in non-permitted MPF's. Place uncrated munitions on handling trap and send to MIN.

Title: Munitions Inerting Operator

Name:

Duties: Handle munitions, place munitions into inerting tank and seal tank, remove inerted munitions and transport to download area.

Title: Munitions Download Operator

Name:

Duties: Remove submunitions from inerted munition, place in bag and tape bag shut, and load bagged submunitions onto deactivation furnace input conveyor.

Title: Drum Glovebox Operator

Name:

Duties: Remove lids from drums containing CMC, take samples of contents if required, and send drums (on trays) by conveyor to metal parts furnaces with primary fume burners.

Maintenance

Title: Millright

Name:

Duties: Conduct preventive maintenance and repair of fans, pumps, HVAC systems, conveyors, airlocks, furnaces, and baghouses (including removal of

dust and checkout/replacement of bags).

Title: Pipefitter

Name:

Duties: Install and repair tanks, hydraulic, gas and water systems, maintain furnaces.

Title: Instrument Technician

Name:

Duties: Perform electronics troubleshooting, calibrations, verify systems performance, maintain control and instrument systems.

Title: Electrician

Name:

Duties: Perform all non-instrument electrical repairs, including maintenance of primary and emergency electrical systems.

Title: Maintenance Engineer

Name:

Duties: Supervise maintenance of equipment and facilities. Coordinate with Engineering Division when design changes for reliability or maintainability are required.

Title: Repair Parts Stocker

Name:

Duties: Pick up all supplies and repair parts from Pine Bluff Arsenal main warehouse, etc., and deliver to site. Maintain repair parts supply room.

H-1b. Training Content, Frequency, and Techniques. [264.16(d)(3), 264.16(c)].

The following table (Table H-1) specifies which initial training courses are required for each person in the BZ Demilitarization Facility operations. All applicable courses must be satisfactorily completed before a worker is allowed to begin his assigned job. Each course will consist of both classroom and hands-on instruction. A more detailed description of each course follows Table H-1.

Continuing training and refresher courses and frequency are addressed after the detailed course descriptions in Section H-1b(2).

TABLE H-1

Initial Training Requirements

Course No.	Course Title (See Section H-1b(1) for detailed descriptions.)	OPERATORS					MAINTENANCE						OTHER PERSONNEL								
		Control Room	Inerting Munition	Download Munition	Drum Glovebox	Furnace area Operators	Millwrights	Pipefitters	Instrument Techs	Electricians	Maint Engrs	Stocker Repair Parts	TCA Attendant	LTS Nontoxic Attendant	Clothing Operator	Forklift Operator	Deputy Director & Staff	Engineering Technicians	Engineering QA Personnel	Chemists & Lab Techs and Aides
1.	Overall BZ facility operation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2.	Deactivation furnace	X	X	X		X	X	X	X	X	X						X	X	X		
3.	Metal parts furnaces	X	X	X	X	X	X	X	X	X	X						X	X	X		
4.	Heated discharge conveyor	X	X	X		X	X		X	X	X						X	X	X		
5.	Material transport conveyors	X	X	X	X	X	X			X	X					X	X	X	X		
6.	Air pollution control system	X					X	X	X		X						X	X	X		
7.	Munition inerting system	X	X				X	X	X		X						X	X	X		
8.	Munition download procedures	X		X							X						X	X	X		
9.	Drum Airlock	X			X						X						X	X	X		
10.	System Controls	X	X					X	X	X	X						X	X	X		
11.	System operating parameters	X							X		X						X	X	X		
12.	Operating procedures	X	X	X	X	X					X						X	X	X		
13.	Emergency procedures	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
14.	Response to alarms	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15.	Recordkeeping	X					X	X	X	X	X	X	X	X	X		X	X	X	X	X
16.	Routine facility washdown		X	X							X			X				X	X	X	X
17.	Decontamination of mask												X								
18.	Cml mixing and handling procedures				X									X			X	X	X		
19.	Sampling for BZ					X										X	X	X	X	X	X
20.	Safe handling of BZ	X	X	X	X	X	X	X	X	X			X		X	X	X	X	X	X	X
21.	Don and Doff Level B	X	X	X			X	X	X	X	X		X				X	X			
22.	Emergency BZ medical treatment	X	X	X	X		X	X	X	X	X		X				X	X		X	X
23.	Facility security	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
24.	BZ Surety	X															X	X		X	X
25.	HEPA system operation	X						X	X	X	X						X	X		X	X
26.	Opn of GC-MS																			X	
27.	Opn of colorimetric autoanalyzer																			X	X
28.	Lab procedures																			X	X
29.	Operation of BZ alarms																			X	X

H-1b(1) Detailed Course Descriptions

Each course will include explanations of the appropriate theories of design and operation, descriptions of actual hardware/equipment and safety procedures.

Course 1 - Overall BZ facility operation: Facility purpose, flow diagrams for munition handling, flow diagrams for drum handling, deactivation furnace and heated discharge conveyor, metal parts furnaces, inerting equipment, air pollution control equipment, controls and interlocks.

Course 2 - Deactivation furnace: feed conveyor, retort configuration, burner housing and assembly, controls, fuel and air systems.

Course 3 - Metal parts furnaces: internal configuration, burner assembly, controls, fuel and air systems, primary fume burners.

Course 4 - Heated discharge conveyor: internal configuration, internal conveyor operation, controls.

Course 5 - Material transport conveyors: configuration, safety features, interlocks.

Course 6 - Air pollution control system: ducting, gas cooling, dampers, baghouse and bypass, ID fan, furnace exhaust stack, afterburner including configuration, burner assembly, controls and fuel/air system.

Course 7 - Munition inerting system: internal configuration, including conveyor, vacuum and pressure cycle, controls on tanks and in control room,

interlocks, piping system.

Course 8 - Munition download procedures: handling of all-up munition, disassembly procedures, bagging or submunitions, feeding submunitions onto conveyor, double tipping valve, handling of casing, etc.

Course 9 - Drum airlock: handling of CMC filled drums, use of tools in the airlock, glovebox conveyor.

Course 10 - System controls: controls on specific pieces of equipment, master control panel in control room, alarm panel, interlocks. (NOTE: Control room operators will receive detailed training, while other operators will receive only an overview of the control systems.)

Course 11 - System operating parameters: processing rates of munitions and drums, temperatures of furnaces and afterburner, gas and air flows, speed of conveyors, deactivation furnace rotation and oscillation, purge cycles, stack flows, temperature limits on baghouse, shutdown requirements for maintenance, condition of seals, refractories, etc.

Course 12 - Operating procedures: start-up operations and shutdown of all systems, requirements of safety and interlock systems, relationships between the control room and controls attached to specific equipment, communication systems, interfaces between equipment and interrelated controls, startup and shutdown of specific pieces of equipment for maintenance.

Course 13 - Emergency procedures and use of emergency equipment: problems with gas flows, air flows, furnace flameouts and other equipment-specific

malfunctions, emergency startup and shutdown procedures, temperature control problems, priorities for action, reactions to emergencies caused by activities outside the plant, (such as loss of power, loss of fuel, wind or lightning interference, etc.), loading procedure for emergency generator, startup of propane fuel backup system, shut off of emergency generator and propane fuel system, personnel emergencies which are process or equipment related, reaction to damage or malfunction of specific equipment, coordination with maintenance personnel, on-site personnel, fire department, medical department, etc., operation of fire protection system (automatic and manual), CMC spill control, including pumpout, sampling and decontamination, malfunction of interlocks, procedures and communication requirements for feed cutoff (all furnaces).

Course 14 - Response to alarms: activation of low or high temperature alarms on furnaces, afterburner, or baghouse. Activation of fire protection system, loss of power or fuel, improper completion of inerting sequence, insufficient air flows through incineration equipment, flameout alarm on furnaces or afterburner.

Course 15 - Recordkeeping: number of items processed and identifying numbers, status of munitions during processing, records of operating conditions, alarm and response records, lab sample and CO records.

Course 16 - Routine facility washdown: description of procedures, schedule/frequency, safety precautions.

Course 17 - Decontamination of gas masks handling and decontamination procedures, marking and recordkeeping, mask reissue, decontamination

verification.

Course 18 - Chemical mixing and handling procedures: offloading, mixing and manual transport of chemicals, spill control and cleanup, pumping equipment and procedures, dissolving of BZ in acetic acid.

Course 19 - Sampling for BZ: workplace (filter) samplers - operation, sample collection and calibration; stack sampler (EPA V-type train) - operation, sample collection and metering; checking of HEPA pressure drops and set-up/ collection/removal of filter sampler.

Course 20 - Safe handling of BZ: protective equipment/clothing, use of lab hoods and glovebox, BZ exposure symptoms, BZ physical and chemical characteristics, medical contraindicators to working with BZ.

Course 21 - Donning and doffing Level B protective suits: proper wearing of cotton goods, rubber goods, and gas masks, uses and limitations of paper protective suits, proper undressing and shower-out procedure for toxic areas, use of positve pressure airpacks in thermally hot areas, wearer inspection of suits, buddy system.

Course 22 - Emergency BZ medical treatment: BZ exposure symptoms, including onset times and severity of response, actions while awaiting onsite medical personnel, checking for nonagent injuries which could affect handling of exposed personnel, restraint of exposed personnel, emergency decontamination of personnel.

Course 23 - Facility security: entry and exit procedures, including badge exchange, safekeeping of equipment, material, and information, emergency entry and exit at the fence and for each building.

Course 24 - BZ surety: physical storage, handling, and recordkeeping, accountability program, decontamination of BZ and BZ contaminated samples and lab equipment, lab washdown, including segregation of BZ from non-BZ effluent streams.

Course 25 - HEPA system operation: metering and calibration, including system balancing, installation, replacement, and disposal of charcoal and particulate filters, installation of sampling system for BZ.

Course 26 - Operations of GC-MS: (Training provided by vendor.)

Course 27 - Operation of colorimetric autoanalyzer: (Training provided by vendor.)

Course 28 - Lab procedure: lab safety, surety, security, sampler preparation, sampler extraction and workup, decontamination and cleanup of samplers and lab equipment, quality control procedures, QC recordkeeping and use of lab notebooks, use of lab hoods, operation of standard lab equipment, chemical handling procedures, final certification for precision and accuracy.

Course 29 - Operation of BZ alarms: principles of operation, placement of alarms on stack and around the workplace, servicing, maintenance and calibration of alarms, interface between alarms and alarm/communications

system at the facility.

H-1b(2) Continuing Training and Refresher Courses

When hired and/or assigned to the BZ workforce, each person will be trained in accordance with the previous discussion of initial training. Refresher training will be conducted every 6 months, or whenever process changes occur. It is expected that munitions will be processed first, and that approximately 34 weeks will be required to dispose of the munition inventory. Disposal of BZ contaminated liquids and solids will be conducted second, and is expected to last approximately 41 weeks. Therefore, it is assumed that no refresher training will be required during munition processing, but that refresher training will be required once during the processing of drums of contaminated materials.

Additional training requirements for specific personnel will be based on observation and critique by safety and supervisory personnel, with remedial training conducted whenever necessary.

Refresher courses will be attended by all operations and maintenance personnel who handle drums of CMC or who work on equipment associated with CMC. A list of refresher courses follows:

a. Metal parts furnaces.
b. Material transport conveyors.
c. Air pollution control system.
d. Drum airlock.
e. Systems controls.

f. System operating parameters.

g. Operating procedures.

h. Emergency procedures.

i. Response to alarms.

j. Recordkeeping.

H-1c Training Director [264.16 (a)(2)].

The Training Director will be trained in all aspects the operation of the BZ Facility and hazardous waste management and will attend various seminars on the subjects. The requirements of the Training Director are:

Title: Training Director

Name:

Duties:
- Serves as primary liaison to the Environmental Coordinator for the facility.
- Supervises training of plant personnel in proper operation of the BZ Facility in accordance with Standing Operating Procedures (SOPs) and with environmental regulations and the facility's RCRA permit.
- Assists in the resolution of problems involving permits and licenses from local, state, and Federal regulatory agencies.
- Assists in the updating of operating procedures.
- Prepares training aids and manuals.
- Conducts continuing training as necessary to inform plant personnel of new procedures.
- Maintains training records in accordance with 40CFR 264.16(d) and 40CFR 264.16(e) and provides copies to the Civilian Personnel Office.

Experience and Qualifications:

- B.S. degree in engineering, physics, or chemistry.
- Experience in plant operations and RCRA regulations is desirable.

H-1d Relevance of Training to Job Position [264.14 (a)(2)].

The Training Director is responsible for teaching safety, operational and emergency procedures including hazardous waste management and contingency plan implementation, to all plant personnel. The training program is tiered (Table H-1) in some areas to provide training to personnel at levels that are relevant to their positions within the plant.

H-1e Training for Emergency Response [264.16 (a)(3)].

This program is designed and structured to ensure that operating personnel are trained to perform routine operations and to respond properly to emergency situations over and above routine operations, and to maintain compliance with applicable permits and regulations during emergencies.

This training addresses non-routine situations which could lead to a RCRA emergency if proper responses are not implemented such as:

-- Unscheduled shutdowns and startups related to storms, power outages, fires, explosions, spills, etc.

-- Procedures for locating, using, inspecting, repairing, and replacing facility emergency and monitoring equipment. This is addressed also in Course 13 as described in Section H-1b of this Permit Application.

-- Key parameters for automatic waste feed cut-off system. This is addressed also in Course 13 as described in Section H-1b of this Permit

Application.

-- Communications or alarm systems. This is addressed also in Courses 14 and 29 as described in Section H-1b of this Permit Application.

-- Response to fires or explosions. This is addressed also in Course 14 as described in Section H-1b of this Permit Application.

-- Shutdown of operations. This is addressed also in Courses 12 and 13 as described in Section H-1b of this Permit Application.

In addition to the plant operation personnel, Pine Bluff Arsenal Fire Department is on standby for response to all fires and other general plant emergencies. The fire department is trained both with classroom training methods and fire drills. The classroom training is required for introductory training and as an annual review for each member assigned to the fire department.

H-2 Implementation of Training Program [264.16 (b); 264.16 (d)(4); 264.16 (e)]. The director of the training program and all personnel will be fully trained prior to the beginning of BZ demilitarization operations. Afterwards, newly assigned personnel will complete this training program within 6 months of assignment to the BZ Demilitarization Facility. No employee hired to work at this facility will work unsupervised prior to completion of the training program.

Employees are required to meet for refresher reviews and updates of this training program every 6 months or whenever process changes occur to discuss

and study the following subjects:

(1) All hazardous wastes currently being handled at the facility, noting any changes in waste type, volume, source, characteristics, or location that have occurred.

(2) The status of storage and operating conditions and procedures, noting any areas where there are problems or potentials for problems. Employees will participate in developing effective solutions.

(3) The requirements contained in the facility's RCRA permit, noting any changes that have occurred. Areas where maintenance of compliance is a problem are identified and discussed, and effective solutions are sought.

(4) Incidents that have occurred that warranted use of contingency plans and/or emergency action. This review focuses on the cause of the incident and identification of steps to be taken to prevent or to ensure better handling of such events in the future.

Records documenting the job title for each position, job descriptions, names of employees, and completed training programs (both introductory and review), will be kept in the personnel office of Pine Bluff Arsenal. Documentation will be recorded on the "Installation Training - Attendance and Rating Record" as shown in Figure H-1. These records will be kept 3 years after closure of the BZ Facility.

SECTION I

I. CLOSURE PLAN, POST-CLOSURE PLANS AND FINANCIAL REQUIREMENTS

I-1. Closure Plan [270.14 (b)(13); 264.110 thru 264.115; 264.178; 264.197; 264.351].

I-1a. Closure Performance Standard [264.111].

The term "final closure" when applied to the BZ Demilitarization Facility as a whole would mean that all BZ demilitarization operations were complete and that the various items permitted under this RCRA Permit Application had been also taken out of service and "closed" in accordance with following parts of this section.

The closure of any one of the various BZ Demilitarization Facility components permitted under RCRA would constitute (1) closure of that particular item, and (2) partial closure of the BZ Demilitarization Facility. The term "partial closure" therefore does not apply to the individual BZ Demilitarization Facility components permitted under RCRA, but rather is a term that applies to the BZ Demilitarization Facility as a whole. It follows, then, that closure of some individual permitted component for repairs or maintenance, etc., would be considered temporary closure, and that final closure of the various permitted items would not occur until completion of the demilitarization operations.

Final closure of the BZ Demilitarization Facility would minimize the need for post-closure maintenance and controls because the entire BZ demilitarization inventory would be disposed of and the various permitted and other components would be decontaminated, cleaned, and prepared for inactivity by the time of final closure.

There would be no threat of release of hazardous wastes, hazardous waste constituents, leachate, etc., to the environment because all such hazardous components would already be demilitarized to non-RCRA substances.

I-1b. Partial Closure and Final Closure Activities [264.112 (a)(1)].

Partial closure of the BZ Demilitarization Facility occurs when at least one of the various permitted components (i.e., MPF's, MIN, MHA, DFS) is removed from service. Removal from service could be for maintenance and/or repair services or after each component has treated the final load of waste disposal inventory that it was intended to treat. The maximum extent of the BZ Demilitarization Facility operation that will remain unclosed during the life of the facility will be the entire facility itself.

The BZ Demilitarization Facility, with respect to the various permitted components, will be finally closed after the entire waste disposal inventory has been demilitarized, and the wastes generated during demilitarization and decontamination are disposed of in accordance with the Permit.

I-1c. Maximum Waste Inventory [264.112 (a)(2)].

Table D-1 of this Permit Application lists the maximum waste inventory of each item scheduled for demilitarization. The proposed daily target processing rates for the various items listed in Table D-1 follows:

M43 munitions	12 each,
or M44 munitions	24 each,
or BZ	16 drums each,
or Solid wastes	16 drums each,
or Liquid wastes	16 drums each,
or Misc. parts bins	Entire inventory in one week.

I-1d. Inventory Disposal, Removal or Decontamination of Equipment [264.114; 264.112 (a)(3)].

The entire hazardous waste inventory will be demilitarized by processing through the demilitarization facility, which will either destroy or render non-hazardous the entire inventory. Wastes generated during the demilitarization operations will be disposed of as follows:

- Floor washings from the MIN will be collected and pumped to the liquid incinerator;

- Spent caustic (pH greater than 12.5) decontamination solution will be drummed and disposed of in a permitted metal parts furnace;

- Baghouse dust will be disposed of in a permitted Pine Bluff Arsenal landfill;

- Mixed furnace residues will be disposed of in a permitted Pine Bluff Arsenal landfill.

Decontamination of the various permitted BZ Demilitarization Facility components is proposed as follows:

- The MHA will be decontaminated using caustic detergent wash and scrub. The decontamination solution will be collected in the MHA drainage system sumps and disposed of in the liquid incinerator;

- The MIN will also be decontaminated using a caustic detergent solution and followed by a clear water rinse. The decontamination solution will be disposed of in the LIN;

- The DFS and the MPF's will be decontaminated by heating the furnaces to normal demilitarization operating temperature after all wastes have passed through them. The ash, char, and residues will thereby be rendered non-hazardous and will be removed from the furnace and disposed of in a Pine Bluff Arsenal permitted landfill.

Effective decontamination will be verified by analysis of the final batch of MHA and MIN rinse water and by wipe tests and lab analysis for all other permitted BZ Demilitarization Facility components.

I-1d(1). Closure of Containers [264.178].

Final closure of the MHA implies that the entire hazardous waste inventory listed in Table D-1 has already been disposed of and that the MHA is empty. As mentioned in Section I-1d, the MHA will be decontaminated using caustic detergent wash and scrub. The decontamination solution will be collected in the MHA sumps, removed into drums, and disposed of in a BZ Demilitarization Facility furnace. Effective decontamination will be verified by lab analysis for hazardous waste constituents.

I-1d(2). Closure of Tanks [264.197].

Final closure of the tanks (the autoclaves in the MIN) implies that all M43 and M44 munitions have been disposed of in the demilitarization operations and that the MIN will receive no more munitions or wastes. Each tank in the MIN, as well as the inerting solution tank, all piping, pumps, sumps, etc., will be drained of inerting solution. The inerting solution will be drummed and disposed of in a BZ Demilitarization Facility furnace. All of these same items will be decontaminated using a caustic detergent and clear water rinse. The rinse solution will then also be drummed and disposed of in a BZ Demilitarization Facility furnace. Effective decontamination will be verified by lab analysis of the final batch of rinse water.

I-1d(3). Closure of Surface Impoundments does not apply to this Permit Application.

I-1d(4). Closure of Incinerators [264.351].

Final closure of incinerators (the DFS and the MPF's) implies that all of the wastes inventoried in Table D-1 have been disposed of, that all wastes generated during demilitarization operations have been disposed of, and that all decontaminated wastes and solutions from final closure of the MHA of the MIN have been disposed of.

The DFS and the MPF's will be decontaminated by running at normal demilitarization operating temperature after all wastes have passed through them. This will render non-hazardous any ash, char, or residues inside the furnaces. The normal furnace cleaning procedures will then be followed and the remains will be disposed of in a Pine Bluff Arsenal permitted landfill.

The duct work, afterburner, and pollution control equipment will be cleaned inside and outside by either vacuuming or caustic detergent scrub until all traces of hazardous residues are removed. The outsides of the furnaces and adjacent areas will also be scrubbed and/or vacuumed. Residues collected by vacuuming will be drummed and will become the final volume of waste to be incinerated.

I-1e. Schedule for Closure [264.112 (a)(4)].

The BZ Demilitarization Facility, when considered as a whole, is proposed to be finally closed beginning in the 19th month of operation, currently scheduled June, 1988. Total time for closure will be 180 days or less.

Final closure of the various permitted components of the BZ Demilitarization Facility could commence at times prior to April, 1988. For

example, the MIN could be finally closed when all of the M43 and M44 munitions are disposed of since there would be no further need of it.

A schedule for closure would necessarily depend on the sequence in which the wastes slated for demilitarization were disposed of. Since the MHA will only hold a 3 to 4 day backlog of wastes intended for demilitarization, assurance that all hazardous wastes will be disposed of within 90 days from the receipt of the final volume of waste is implied.

Final closure of the BZ Demilitarization Facility will begin within 90 days and be completed within 180 days after receipt of the final volume of waste as required by 40CFR 264.112(a)(4).

I-1f. Extension of Closure Time [264.113 (a); 264.113 (b)].

No extension of closure time is requested.

I-2. Post-Closure does not apply to this Permit Application.

I-3. Notice in Deed does not apply to this Permit Application.

I-4. Closure Cost Estimate does not apply to this Permit Application.

The following sections do not apply to this Permit Application because the BZ Demilitarization Facility is an entity of the Federal Government and is therefore exempt from the regulations in Subpart H - Financial Requirements of 40CFR 264. This exemption is stated in 40CFR 264.140(c).

A list of the exempt sections follows:

I-5. Financial Assurance Mechanism for Closure

I-5a. Closure Trust Fund

I-5b. Surety Bond

I-5c. Closure Letter of Credit

I-5d. Closure Insurance

I-5e. Financial Test and Corporate Guarantee for Closure

I-5f(1). Use of Multiple Financial Mechanisms

I-5f(2). Use of Financial Mechanism for Multiple Facilities

I-6. Post-Closure Cost Estimates

I-7. Financial Assurance Mechanism for Post-Closure

I-8. Liability Requirements

I-8a. Sudden Insurance

I-8b. Non-Sudden Insurance

I-8c. Financial Test for Liability Insurance

I-9. State Financial Mechanism

I-9a. Use of State Required Mechanisms

I-9b. State Assumption of Responsibility

I-10. Certificate of Closure [264.115].

When closure is completed, Pine Bluff Arsenal will submit to the Regional Administrator certification by both Pine Bluff Arsenal and by an independent registered professional engineer that the BZ Demilitarization Facility has been closed in accordance with the specifications of the approved closure plan.

CERTIFICATION SHEET FOR PART B PERMIT APPLICATION
FOR THE BZ DEMILITARIZATION FACILITIES
AT
PINE BLUFF ARSENAL, PINE BLUFF, ARKANSAS

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

JOHN L. DASCANIO
COL, CmlC
Commander